

STRUCTURAL - GENERAL NOTES

GENERAL REQUIREMENTS

GOVERNING CODE: The design and construction of this project is governed by the "International Building Code (IBC)", 2012 Edition, hereafter referred to as the IBC, as adopted and modified by the City of Spokane, WA understood to be the Authority Having Jurisdiction (AHJ).

REFERENCE STANDARDS: Refer to Chapter 35 of 2012 IBC. Where other Standards are noted in the drawings, use the latest edition of the standard unless a specific date is indicated. Reference to a specific section in a code does not relieve the contractor from compliance with the entire standard.

DEFINITIONS: The following definitions cover the meanings of certain terms used in these notes:

"Architect/Engineer" – The Architect of Record and the Structural Engineer of Record.

- **"Structural Engineer of Record" (SER)** – The structural engineer who is licensed to stamp & sign the structural documents for the project. The SER is responsible for the design of the Primary Structural System.
- **"Submit for review"** - Submit to the Architect/Engineer for review prior to fabrication or construction.
- **"Per Plan"** – Indicates references to the structural plans, elevations and structural general notes.
- **"Specialty Structural Engineer" (SSE)** – A professional engineer (PE or SE) licensed in the State where the project is located, (typically not the SER), who performs specialty structural engineering services for selected specialty-engineered elements identified in the Contract Documents, and who has experience and training in the Specialty. Documents stamped and signed by the SSE shall be completed by or under the direct supervision of the SSE.
- **"Bidder-designed"** – Components of the structure that require the general contractor, subcontractor, or supplier who is responsible for the design, fabrication and installation of specialty-engineered elements identified in the Contract Documents to retain the services of an SSE. Submittals of "Bidder-designed" elements shall be stamped and signed by the SSE.

SPECIFICATIONS: Refer to the project specifications issued as part of the contract documents for information supplemental to these drawings.

OTHER DRAWINGS: Refer to the architectural, mechanical, electrical, civil and plumbing drawings for additional information including but not limited to: dimensions, elevations, slopes, door and window openings, non-bearing walls, stairs, finishes, drains, waterproofing, railings, curtain walls, elevators, curbs, depressions, mechanical unit locations, and other nonstructural items.

STRUCTURAL DETAILS: The structural drawings are intended to show the general character and extent of the project and are not intended to show all details of the work. Use entire detail sheets and specific details referenced in the plans as "typical" wherever they apply. Similarly, use details on entire sheets with "typical" in the name wherever they apply.

STRUCTURAL RESPONSIBILITIES: The structural engineer (SER) is responsible for the strength and stability of the primary structure in its completed form.

COORDINATION: The Contractor is responsible for coordinating details and accuracy of the work, for confirming and correlating all quantities and dimensions, for selecting fabrication processes, for techniques of assembly, and for performing work in a safe and secure manner.

PRE-CONSTRUCTION MEETINGS: The Contractor is responsible for coordinating pre-construction meetings prior to commencing work. Pre-con meetings, scheduled approximately two weeks prior to the start of the relevant work, are required for the following phases of construction: **Structural Steel, Concrete and Pile Installation.** Attendees for pre-construction meeting are to include contractor, relevant subcontractors, fabricators, inspectors, architect/engineer, and representatives of the Authority Having Jurisdiction where required. Meeting agendas are to include review of the work scope, project schedule relevant to the work, contact information of responsible parties, inspection points, review of materials and any special cases or issues, procedures for clarifications if required, testing and acceptance, etc.

MEANS, METHODS AND SAFETY REQUIREMENTS: The contractor is responsible for the means and methods of construction and all job related safety standards such as OSHA and DOSH (Department of Occupational Safety and Health). Contractor is responsible to adhere to OSHA regulations regarding steel erection, items specifically addressed in the latest OSHA regulations. Bolting and field welding at all member connections is to be completed prior to the release of the member from the hoisting mechanism unless reviewed and approved by the General Contractor's temporary bracing and shoring design engineer.

BRACING/SHORING DESIGN ENGINEER: The contractor shall at his discretion employ an SSE, a registered professional engineer for the design of any temporary bracing and shoring.

TEMPORARY SHORING, BRACING: The contractor is responsible for the strength and stability of the structure during construction and shall provide temporary shoring, bracing and other elements required to maintain stability until the structure is complete. It is the contractor's responsibility to be familiar with the work required in the construction documents and the requirements for executing it properly.

CONSTRUCTION LOADS: Loads on the structure during construction shall not exceed the design loads as noted in DESIGN CRITERIA & LOADS below or the capacity of partially completed construction as determined by the Contractor's SSE for Bracing/Shoring.

CHANGES IN LOADING: The contractor has the responsibility to notify the SER of any architectural, mechanical, electrical, or plumbing load imposed onto the structure that differs from, or that is not documented on the original Contract Documents (architectural / structural / mechanical / electrical or plumbing drawings). Provide documentation of location, load, size and anchorage of all undocumented loads in excess of 400 pounds. Provide marked-up structural plan indicating locations of any new equipment or loads. Submit plans to the Architect/Engineer for review prior to installation.

NOTE PRIORITIES: Plan and detail notes and specific loading data provided on individual plans and detail drawings supplements information in the Structural General Notes.

DISCREPANCIES: In case of discrepancies between the General Notes, Specifications, Plans/Details or Reference Standards, the Architect/Engineer shall determine which shall govern. Discrepancies shall be brought to the attention of the Architect/Engineer before proceeding with the work. Should any discrepancy be found in the Contract Documents, the Contractor will be deemed to have included in the price the most expensive way of completing the work, unless prior to the submission of the price, the Contractor asks for a decision from the Architect as to which shall govern. Accordingly, any conflict in or between the Contract Documents shall not be a basis for adjustment in the Contract Price.

SITE VERIFICATION: The contractor shall verify all dimensions and conditions at the site. Conflicts between the drawings and actual site conditions shall be brought to the attention of the Architect/Engineer before proceeding with the work.

ADJACENT UTILITIES: The contractor shall determine the location of all adjacent underground utilities prior to earthwork, foundations, shoring, and excavation. Any utility information shown on the drawings and details is approximate and not necessarily complete.

ALTERNATES: Alternate products of similar strength, nature and form for specified items may be submitted with adequate technical documentation (proper test report, etc.) to the Architect/Engineer for review. Alternate materials that are submitted without adequate technical documentation or that significantly depart from the design intent of materials specified may be returned without review. Alternates that require substantial effort to review will not be reviewed unless authorized by the Owner.

DESIGN CRITERIA AND LOADS

OCCUPANCY:	Risk Category of Building per 2012 IBC Table 1604.5 =	II
-------------------	---	-----------

WIND DESIGN:	MAIN WIND FORCE RESISTING SYSTEM	110
Ultimate Design Wind Speed, V _{ULT} (MPH)		
Exposure Category	B	
Internal Pressure Coefficient	C_{pi} = +/- 0.18	
Topographic Factor	K_{zt} = 1.0	
Wind Analysis procedure used:	Method 2 – Analytical	

SEISMIC DESIGN	Seismic Design Category:	SDC = C
	Basic Structural System	Building Frame
	Seismic Force Resisting System	Steel System Not Specifically Detailed for Seismic Resistance
	Response Modification Factor:	R = 3
	System Over strength Factor	Omega = 3
	Deflection Amplification Factor	Cd = 3
	Site Classification per IBC 1613.3.2 & ASCE 7-10, Ch. 20	D
	Site Class =	
	Seismic Importance Factor per ASCE 7-10 Table 1.5-2	I_p = 1.0
	Spectral Response Acceleration (Short Period)	S_s = 0.333
	Spectral Response Acceleration (1-Second Period)	S₁ = 0.115
	Spectral Design Response Coefficient (Short Period)	S_{DS} = 0.34 g
	Spectral Design Response Coefficient (1-Second Period)	S_{D1} = 0.18 g
	Seismic response coefficient(s)	C_s = 0.113 (strength level)
	Redundancy Factor (North/South Direction)	N₁ = 1.0
	Redundancy Factor (East / West Direction)	E_W = 1.0
	Design Base Shear (North/South Direction) (KIPS)	351 (including 2 future stories)
	Design Base Shear (East / West Direction) (KIPS)	351 (including 2 future stories)
	Base shear governed by:	351k seismic
	Seismic Analysis procedure used:	Equivalent Lateral Force (ELF)

SNOW LOAD: ⁽¹⁾	Flat Roof Snow Load, (PSF)	p_s = 30
	Snow Drift Loading required by Authority Having Jurisdiction?	Yes
	Snow Load Importance Factor	I_s = 1.0 ⁽²⁾
	Ground Snow Load, (PSF)	p_g = 43
	Snow Exposure Factor	C_e = B
	Thermal Factor	C_t = 1.0
	See Roof Plan for Drift Loading	

- (1) Snow Load is un-reducible and includes 5 psf rain-on-snow surcharge where ground snow load is greater than zero and 20 psf or less per ASCE 7-10 Section 7.10.
- (2) Snow Load Importance Factor per ASCE 7-10 Table 1.5-2.

DESIGN LIVE LOADS	AREA	LIVE LOADS (PSF/LNO)	REMARKS & FOOTNOTES
	Handrails & Pedestrian Guardrails	50 PLF or 200 LB	(1)
	Stairs & Exits	100 PSF or 300 LB	Stair treads per note (2)
	Lobbies	100	2000 lbs, (Movable seats)
	Corridors at First Floor	100	
	Corridors above first Floor	---	Same as occupancy served
	Offices (Clinical and support services)	80+20 (100 reducible)	2000 lbs (4)
	Roofs	20 PSF or 300 LB	Area load is reducible. Point load per note (2). See above for Snow Load.

- (1) Top rail shall be designed to resist 50 PLF line load or 200 lb point load applied in any direction at any point. Intermediate rails (all those except the handrail), balusters and panel fillers shall be designed to withstand a horizontally applied normal load of 50 LB on an area not to exceed 1 ft square. These three loads are to be considered separately with worst case used for design.
- (2) Place 300 lb concentrated load over 2'x2' area at any point to produce maximum stress. Area load and concentrated load are to be considered separately with worst case used for design.
- (3) Need not apply concurrently with other handrail and guardrail loads; applied over not more than 1 square foot.
- (4) Floors for Business Group B (Offices) Occupancy shall be designed with a basic floor Live Load plus an additional 15 PSF (minimum) live loading for movable partitions.

DESIGN DEAD LOADS	BIDDER DESIGN	DEAD LOADS (PSF/LNO)	REMARKS & FOOTNOTES
	<i>FUTURE</i> Roof Dead Load	30 PSF	For Future Design
	<i>FUTURE</i> Floor Dead Load	80 PSF	
	Current Roof Dead Load	80 PSF	Current Roof (L3) – future floor

SUBMITTALS

SUBMIT FOR REVIEW: SUBMITTALS of shop drawings, and product data and mill tests are required for items noted in the individual materials sections and for *bidder designed* elements.

SUBMITTAL REVIEW PERIOD: Submittals shall be made in time to provide a minimum of TWO WEEKS or 10 WORKING DAYS for review by the Architect/Engineer prior to the onset of fabrication.

GENERAL CONTRACTOR'S PRIOR REVIEW: Prior to submission to the Architect/Engineer, the Contractor shall review the submittal for completeness. Dimensions and quantities are not reviewed by the SER, and therefore, must be verified by the General Contractor. Contractor shall provide any necessary dimensional details requested by the Detailer and provide the Contractor's review stamp and signature before forwarding to the Architect/Engineer.

SHOP DRAWING REVIEW: Once the contractor has completed his review, the SER will review the submittal for general conformance with the design concept and the contract documents of the building and will stamp the submittal accordingly. Markings or comments shall not be construed as relieving the contractor from compliance with the project plans and specifications, nor departures there from. The SER will return submittals in the form they are submitted in (either hard copy or electronic). For hard copy submittals, the contractor is responsible for submitting the required number of copies to the SER for review.

SHOP DRAWING DEVIATIONS: When shop drawings (component design drawings) differ from or add to the requirements of the structural drawings they shall be designed and stamped by the responsible SSE.

DEFERRED SUBMITTALS

BIDDER-DESIGNED ELEMENTS
Submit "Bidder-Designed" deferred submittals to the Architect and SER for review. The deferred submittals shall also be submitted to the city for approval, if required by the city.

Design of prefabricated, "bidder designed", manufactured, pre-engineered, or other fabricated products shall be comply with the following requirements:

- 1) Design considers tributary dead, live, wind and earthquake loads in combinations required by IBC.
- 2) Design within the Deflection Limits noted herein and as specified or referenced in the IBC.
- 3) Design shall conform to the specifications and reference standards of the governing code.
- 4) Submittal shall include:
 - a. Calculations prepared, stamped and signed by the SSE demonstrating code conformance.
 - b. Engineered component design drawings are prepared, stamped and signed by the SSE.

- c. Product data, technical information and manufacturer's written requirements and Agency approvals as applicable.
- d. SSE may submit to the Architect/Engineer, a request to utilize relevant alternate design criteria of similar nature and generally equivalent which is recognized by the Code and acceptable to the Authority Having Jurisdiction. Submit adequate documentation of design.

DEFLECTION LIMITS:	VERTICAL	LIMIT
	Roof Members, Dead + Live or Snow or Wind. Total Load (TL) Deflection	L / 240, where (L is span length in inches)
	Roof, Live or Snow or Wind Load (RLI)	L / 360
	Floor Members, Total Load (TL) uno	L / 240
	Floor Live Load (LL) uno	L / 360
	Operable Partition Support Members	L / 600 or 1/2" maximum
	HORIZONTAL	LIMIT and FOOTNOTE
	Members Supporting Brittle Finishes	L / 240 (1)
	Members Supporting Flexible Finishes	L / 180 (1)
	Members Supporting Masonry	L / 600 @ 0.7 x Cladding Wind or 0.7E (1)

(1) Wind Load is reducible to 0.7 times the Component and Cladding Loads per Table 1604.3 footnote f.

GENERAL CONTRACTOR'S PRIOR REVIEW: Once the contractor has completed his review of the SSE component drawings, the SER will review the submittal for general conformance with the design of the building and will stamp the submittal accordingly. Review of the Specialty Structural Engineer's (SSE) shop drawings (component design drawings) is for compliance with design criteria and compatibility with the design of the primary structure and does not relieve the SSE of responsibility for that design. All necessary bracing, ties, anchorage, proprietary products shall be furnished and installed per manufacturer's instructions or the SSE's design drawings and calculations. These elements include but are not limited to:

- Steel Stairs
- Handrails, Guardrails and Balcony Rail Anchorages
- Metal Deck Edge Forms
- Exterior Cladding Systems: Curtain Wall Systems, Pre-engineered Panels
- Window Washing System Tie-down Anchorage
- Mechanical, Electrical, Plumbing & Sprinkler Hanger Plans
- Shoring for foundations
- Precast Concrete Panels
- Cold-formed Metal Studs - Exterior Wall Assemblies
- Photovoltaic Array, Connections and Supports
- Micropiles

INSPECTIONS, QUALITY ASSURANCE VERIFICATIONS AND TEST REQUIREMENTS

INSPECTIONS: Foundations, footings, under slab systems and framing are subject to inspection by the Building Official in accordance with IBC 110.3. Contractor shall coordinate all required inspections with the Building Official.

SPECIAL INSPECTIONS, VERIFICATIONS AND TESTS: Special Inspections, Verifications and Testing shall be done in accordance with IBC Chapter 17 and the STATEMENT OF SPECIAL INSPECTIONS herein per IBC Sections 1704 and 1705 as applicable.

SPECIAL INSPECTION AGENCY AND SPECIAL INSPECTORS: Owner shall retain an "approved agency" per IBC 1703 a WASHO accredited Special Inspectors agency to provide Special Inspections for the project. Special Inspectors shall be qualified persons per IBC 1704.2.1.

STATEMENT OF SPECIAL INSPECTIONS: Special Inspections and Testing per IBC Sections 1704 and 1705 are required for the following:

- **FABRICATION SHOP INSPECTION:** Where off-site Fabrication of gravity LOAD BEARING MEMBERS & ASSEMBLIES is performed, Special Inspector shall verify that the fabricator complies with IBC 1704.2.5 which includes the following:
 - **Prior to the start of fabrication,** Special Inspector(s), representing the Owner, shall visit the Fabricator's shop(s) where the work is to be performed, and verifies that the Fabricator maintains detailed Fabrication and Quality Control procedures that provide a basis for inspection, control of workmanship, material control and fabricator's ability to conform to approved Construction Documents and referenced Standards.
 - **Fabricator shall have available** for Inspector's review, detailed procedures for material control that demonstrates the fabricator's ability to maintain suitable records and procedures such that, at any time during the fabrication process, the material specification, grade and applicable test reports for primary load-carrying members, are capable of being determined.

SOILS & FOUNDATION CONSTRUCTION per IBC Section 1705.6

- **Periodic** inspection of soils earthwork per Table 1705.6 is required for:
 - Footing soil bearing surfaces prior to placing any reinforcing steel.
 - Excavation depth and bearing layer prior to placing any reinforcing steel.
 - Compacted fill material classification.
 - Subgrade preparation prior to filling.
- **Continuous** inspection per Table(s) 1705.6 required for:
 - Filling operations to satisfy requirements of IBC Table 1705.6 and the geotechnical report listed under SOILS & FOUNDATIONS section.
 - Compacted fill density testing of each lift, proper lift thickness and material classification.
 - Driving and testing of Deep Foundations - **Micropiles**, piles per IBC Section & Table 1705.7, 1810 and 1810.3.10.

CONCRETE CONSTRUCTION per IBC Section 1705.3 and Table 1705.3 including:

- **Periodic** inspection required for:
 - Size & placement of all reinforcing steel prior to the pour.
 - Placement clearances around reinforcing steel at embedded conduit.
 - Placing & size of cast-in-place bolts and embedded fabrications prior to the pour.
 - Shape, location & dimensions of members formed.
 - Use of the required design concrete mix.
 - Maintenance of specified curing temperature and techniques.
 - Verification of in-situ concrete strength prior to removal of shores and forms from beams and structural slabs.
- **Continuous** inspection required during the:
 - Placing of reinforced concrete, including concrete on metal deck for proper application techniques.
 - Placing of concrete around cast-in-place bolts and embeds.
 - Sampling of fresh concrete.
 - Determinations of slump, air content and temperature.
 - Grouting operation of post-installed bolts or rebar dowels.

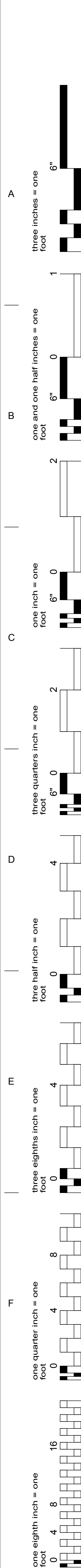
STRUCTURAL STEEL per IBC 1704.2.5.1

A qualified Special Inspector of an "approved agency" providing Quality Assurance (QA) Special Inspections for the project shall review and confirm the Fabricator and Erector's Quality Control (QC) procedures for completeness and adequacy relative to AISC 360-10 Chapter N, the AISC 303 Code of Standard Practice, AWS D1.1-2010 Structural Welding Code, and 2012 IBC code requirements for the fabricator's scope of work.

- QA Agency providing Special Inspections shall provide personnel meeting the minimum qualification requirements for inspection and Nondestructive Testing NDT per AISC 360-10 Section N4.
- Verify Fabricator and Erector Quality Control Program per AISC 360-10 Section N2.
- Visual Welding Inspection of welds by both QC and QA personnel shall be per tables listed in AISC 360 Section N5.
- Inspection Tasks for Welding
 - Prior to Welding per AISC 360-10 Table N5.4-1.
 - During Welding per AISC 360-10 Table N5.4-2.
 - After Welding per AISC 360-10 Table N5.4-3.
- Nondestructive Testing (NDT) of welds:
 - Non-Destructive Testing (NDT) of welded joints per AISC 360-10 N.5.
 - Risk Category for determination of extent of NDT per AISC 360 N5.5b is noted in the Design Criteria and Loads section of these General Requirements.
 - NDT performed shall be documented and reports shall identify the tested weld by piece mark and location in the piece.

STRUCTURAL SHEET LIST	
SHEET NUMBER	SHEET TITLE
S001	GENERAL NOTES
S002	GENERAL NOTES
S003	GENERAL NOTES
S101	BASEMENT/FOUNDATION OVERALL PLAN
S102	BASEMENT/FOUNDATION PLAN NORTH
S103	BASEMENT/FOUNDATION PLAN SOUTH
S111	FIRST FLOOR OVERALL FRAMING PLAN
S112	FIRST FLOOR FRAMING PLAN NORTH
S113	FIRST FLOOR FRAMING PLAN SOUTH
S121	SECOND FLOOR OVERALL FRAMING PLAN
S122	SECOND FLOOR FRAMING PLAN NORTH
S123	SECOND FLOOR FRAMING PLAN SOUTH
S131	ROOF OVERALL FRAMING PLAN
S132	ROOF FRAMING PLAN NORTH
S133	ROOF FRAMING PLAN SOUTH
S141	PARTIAL FRAMING PLANS
S201	BRACED FRAME ELEVATIONS
S202	BRACED FRAME DETAILS
S221	STAIR FRAMING PLANS
S301	FOUNDATION DETAILS
S302	FOUNDATION DETAILS
S303	FOUNDATION DETAILS
S304	FOUNDATION DETAILS
S401	FRAMING DETAILS
S402	FRAMING DETAILS
S403	FRAMING DETAILS
S404	FRAMING DETAILS
S405	FRAMING DETAILS
S406	FRAMING DETAILS
S407	FRAMING DETAILS
S501	COLD-FORMED FRAMING DETAILS

DRAWING LEGEND					
MARK	DESCRIPTION	MARK	DESCRIPTION		
F2.0	FOOTING SYMBOL (REFER TO SPREAD FOOTING SCHEDULE)	I	INDICATES WIDE FLANGE COLUMN		
1P	PILE CAP SYMBOL (REFER TO PILE CAP SCHEDULE)	□	INDICATES HOLLOW STRUCTURAL SECTION (HSS) COLUMN OR TUBE STEEL (TS) COLUMN		
①	TILT-UP/PRECAST CONCRETE WALL CONNECTION SYMBOL (REFER TO CONNECTION DETAIL)	○	INDICATES HOLLOW STRUCTURAL SECTION (HSS) COLUMN OR STEEL PIPE COLUMN		
2WB	SHEAR WALL SYMBOL (REFER TO SHEAR WALL SCHEDULE)	■	INDICATES WOOD POST		
△	REVISION TRIANGLE	■	INDICATES BUNDLED STUDS		
1	TILT-UP/PRECAST CONCRETE WALL PANEL NUMBER (REFER TO TILT-UP/PRECAST CONCRETE WALL ELEVATIONS)	■	INDICATES CONCRETE COLUMN		
◇	CMU WALL REINFORCING SYMBOL (REFER TO CMU WALL REINFORCING SCHEDULE)	■	INDICATES PRECAST CONCRETE COLUMN		
8"	CONTINUITY PLATE LENGTH (REFER TO TYPICAL DETAIL)	→	INDICATES MOMENT FRAME CONNECTION		
DS	INDICATES DOUBLE SHEAR CONNECTION (REFER TO THE DOUBLE SHEAR PLATE CONNECTIONS DETAIL)	→	INDICATES CANTILEVER CONNECTION		
SR	INDICATES NUMBER OF STUD RAIL REQUIRED AT COLUMN (REFER TO STUD RAIL DETAILS)	→	INDICATES DRAG CONNECTION		
◇	ROOF/FLOOR DIAPHRAGM NAILING SYMBOL (REFER TO DIAPHRAGM NAILING SCHEDULE)	→	INDICATES WOOD OR STEEL STUD WALL		
C1 XX'XX"	STEEL/CONCRETE COLUMN SYMBOL (REFER TO STEEL COLUMN ELEVATIONS)	→	INDICATES MASONRY/CMU WALL		
T/FTG = X'X"	ELEVATION SYMBOL (T) REFERS TO COMPONENT THAT THE ELEVATION REFERENCES	→	INDICATES CONCRETE/TILT-UP CONCRETE WALL		
③	STUD BUNDLE (INDICATES NUMBER OF STUDS REQUIRED IF EXCEEDS NUMBER SPECIFIED IN PLAN NOTE)	→	INDICATES WOOD OR STEEL STUD SHEAR WALL		
⬇	INDICATES STEP IN FOOTING (REFER TO TYPICAL STEP IN FOOTING DETAIL)	→	INDICATES BEARING WALL BELOW		
⬇	DETAILS OR SECTION CUT (DETAIL NUMBER/SHEET NUMBER)	→	INDICATES EXISTING WALL		
⬇	DETAILS OR SECTION CUT IN PLAN VIEW (DETAIL NUMBER/SHEET NUMBER)	→	POST-TENSION DEAD END (PLAN)		
⬇	INDICATES LOCATION OF CONCRETE WALLS, SHEAR WALLS OR BRACED FRAME ELEVATIONS	→	POST-TENSION STRESSING END (PLAN)		
⬇	SPAN INDICATOR (INDICATES EXTENTS OF FRAMING MEMBERS OR OTHER STRUCTURAL COMPONENTS)	→	POST-TENSION PROFILE (PLAN) (IN INCHES)		
⬇	INDICATES DIRECTION OF DECK SPAN	→	INTERMEDIATE STRESSING (PLAN)		
ABBREVIATIONS					
L	Angle	FD	Floor Drain	PSI	Pounds Per Square Inch
AB	Anchor Bolt	FDN	Foundation	PST	Parallel Strand Lumber
ADL	Additional	FLR	Floor	P-T	Post-Tensioned
ALT	Alternate	FRP	Fiberglass Reinforced Plastic	PT	Pressure Treated
ARCH	Architectural	FTG	Footing	PT	Post-Tensioned
B or BOT	Bottom	FR	Face of	R	Radius
BLD	Building	GA	Gage	RD	Roof Drain
BLKG	Blocking	GALV	Galvanized	REF	Refer/Reference
BMU	Brick Masonry Unit	GEOTECH	Geotechnical	REIN	Reinforcing
BP	Baseplate	GL	Glue Laminated Timber	REQD	Required
BRB	Buckling Resisting	GWB	Gypsum Wall Board	RET	Retaining
BRG	Braced	HDR	Header	SCB	Special Concentric Braced
BTWN/Between	Between	HGR	Hanger	SCHED	Schedule
CL	Centerline	HP	Hem-Fir	SHNGS	Shingles
C	Camber	HORIZ	Horizontal	SIM	Similar
CB	Cast/Loaded Beam	HP	High Point	SMF	Special Moment Frame
CIP	Cast in Place	HSS = TS	Hollow Structural Section	SOG	Slab on Grade
CJ	Construction or Control Joint	IBC	International Building Code	SPEC	Specification
CJP	Complete Joint	ID	Inside Diameter	SQ	Square
CLR	Clear	IE	Invert Elevation	SR	Studrail
CMU	Concrete Masonry Unit	IF	Inside Face	SF	Square Foot
COL	Column	INT	Interior	SST	Stainless Steel
CONC	Concrete	K	Kips	STAGG	Stagger/Staggered
CONSTR	Construction	KSF	Kips Per Square Foot	STD	Standard
CONT	Continuous	LF	Lineal Foot	STIFF	Stiffener
COUNTR	Countersink	LL	Live Load	STL	Steel
CTRD	Centered	LLH	Long Leg Horizontal	STRUCT	Structural
DIA	Diameter	LLV	Long Leg Vertical	SWWJ	Solid Web Wood Joist
DB	Drop Beam	LP	Low Point	T	Top Of
DBA	Deformed Bar Anchor	LVL	Laminated Veneer Lumber	TJ	Top & Bottom
DBL	Double	MAS	Masonry	T&B	Top & Bottom
DEMO	Demolish	MAX	Maximum	TC AX LD	Top Chord Axial Load
DEV	Development	MECH/Mechanical	Mechanical	TCX	Top Chord Extension
DF	Douglas Fir	MEZ	Mechanical	TD	The Down System
DIAL	Diagonal	MFR	Manufacturer	T&G	Tongue & Groove
DIST	Distributed	MIN	Minimum	THKND	Thickened
DL	Dead Load	MISC	Miscellaneous	THRD	Thread
DN	Down	NIC	Not In Contract	THRU	Through
DO	Ditto	NTS	Not To Scale	TRANSV	Transverse
DP	Depth/Deep	OC	On Center	TYP	Typical
DWG	Drawing	OCB	Ordinary Concentric Braced	UNB	Uniform Building Code
(E)	Existing	OD	Outside Diameter	UNC	Unfinished
EA	Each	OF	Outside Face	US	United States
EF	Each Face	OPNG	Opening	W	Wide
EL	Elevation	OPP	Opposite	W	With
ELEV	Elevation	OWS	Open Web Steel Joist	W	Without
EMBED	Embedment	OWWJ	Open Web Wood Joist	WHD	Welded Headed Stud
EQ	Equipment	PL	Plate	WPS	Welded Working Fabric
EQUIP	Equipment	PAF	Power Actuated Fastener	WWF	Welded Wire Fabric
EXP	Expansion	PC	Precast	+	Plus or Minus
EXP JT	Expansion Joint	PERP	Perpendicular		
EXT	Exterior	PLWD	Plywood		
		PREFAB	Prefabricated		
		PSF	Pounds per Square Foot		



- For field work, the NDT report shall identify the tested weld by location in the structure, piece mark and location in the piece.
- Inspection Tasks for Bolting per AISC 360-10 Section N5.6
 - Prior to Bolting per AISC 360-10 Table N5.6-1. Not required for snug-tight joints.
 - During Bolting per AISC 360-10 Table N5.6-2. Not required for snug-tight joints.
 - After Bolting per AISC 360-10 Table N5.6-3.
- Additional Inspection tasks per AISC 360-10 Section N5.7.
- Inspection for Composite Construction shall be done per AISC 360-10 Section N6.

COLD-FORMED STEEL per IBC Section 1707.4 shall be done in accordance with the following requirements:

- Periodic spot check inspections (**minimum of 30 percent**) for the following:
 - Member material, size, and coating.
 - Alignment, placement, condition of members shall meet the requirements of the "Erection and Tolerances" section below.
 - Wall stud bridging and strongback installation.
 - Connections: screw & bolt size and spacing, welding operations and size.

POST-INSTALLED ANCHORS TO CONCRETE: shall comply with IBC Section 1703. Inspections shall be in accordance with the requirements set forth in the approved ICC Evaluation Report and as indicated by the design requirements specified on the drawings. Refer to the POST INSTALLED ANCHORS section of these notes for anchors that are the basis of the design. Special Inspector shall verify anchors are as specified in the POST INSTALLED ANCHORS section of these notes or as otherwise specified on the drawings. Substitutions require approval by the SER and require substantiating calculations and current 2012 IBC recognized ICC Evaluation Services (ES) Report. Special Inspector shall document in their Special Inspection Report compliance with each of the elements required within the applicable ICC Evaluation Services (ES) Report.

INSPECTION SUBMITTALS: Special inspection reports shall be provided on a weekly basis. Final special inspection reports will be required by each special inspection firm per IBC 1704.2.4. Submit copies of all inspection reports to the Architect/Engineer and the Authority Having Jurisdiction for review.

STRUCTURAL OBSERVATION: This project is Seismic Design Category (C) and Structural Observation is not required.

CONTRACTOR RESPONSIBILITY: Prior to issuance of the building permit, the Contractor is required to provide the Authority Having Jurisdiction a signed, written acknowledgment of the Contractor's responsibilities associated with the above Statement of Special Inspections addressing the requirements listed in IBC Section 1704.4. Contractor is referred to IBC Sections 1705.11.5 and 1705.11.6 for architectural and MEP building systems that may be subject to additional inspections (based on the building's designated Seismic Design Category listed in the CRITERIA), including anchorage of HVAC ductwork containing hazardous materials, piping systems and mechanical units containing flammable, combustible or highly toxic materials, electrical equipment used for emergency or standby power, exterior wall panels and suspended ceiling systems.

PREFABRICATED CONSTRUCTION: All prefabricated construction shall conform to IBC Section 1703.

SOILS AND FOUNDATIONS

REFERENCE STANDARDS: Conform to IBC Chapter 18 "Soils and Foundations."

GEOTECHNICAL REPORT: Recommendations contained in "Report of subsurface explorations and geotechnical engineering studies for the proposed veterans administration hospital addition - Building 27, Spokane, WA" by Gifford Consultants, Inc. dated 9-27-1996 were used for design.

CONTRACTOR'S RESPONSIBILITIES: Contractor shall be responsible to review the Geotechnical Report and shall follow the recommendations specified therein including, but not limited to, subgrade preparations, pile installation procedures, ground water management and steep slope Best Management Practices.

GEOTECHNICAL SUBGRADE INSPECTION: The Geotechnical Engineer shall inspect all sub-grades and prepared soil bearing surfaces, prior to placement of foundation reinforcing steel and concrete. Geotechnical Engineers shall provide a letter to the owner stating that soils are adequate to support the "Allowable Foundation Bearing Pressure(s)" shown below.

DESIGN SOIL VALUES	
Safety Factor per Soils Report.....	3.0
Allowable Foundation Bearing Pressure	4000 PSF
Passive Lateral Pressure	35 PSF/FT
Active Lateral Pressure (unrestrained)	35 PSF/FT
Active Lateral Pressure (restrained)	55 PSF/FT
Coefficient of Sliding Friction	0.30
Bidder Designed Micropiles	Ref 9810/S304 for additional information

FOUNDATIONS AND FOOTINGS: Foundations shall bear on either on competent native soil or compacted structural fill as per the geotechnical report. Exterior perimeter footings shall bear not less than 24 inches below finish grade, unless otherwise specified by the geotechnical engineer and/or the building official.

FOOTING DEPTH: Tops of footings shall be as shown on plans with vertical changes as indicated with steps in the footings. Locations of steps shown as approximate and shall be coordinated with the civil grading plans to ensure that the exterior perimeter footings bear no less than 24 inches below finish grade, or as otherwise indicated by the geotechnical engineer or building official.

SLABS-ON-GRADE: All slabs-on-grade shall bear on compacted structural fill or competent native soil per the geotechnical report. All moisture sensitive slabs-on-grade or those subject to receive moisture sensitive coatings/coverings shall be provided with an appropriate capillary break and vapor barrier/retardant over the subgrade, prepared and installed as noted in the geotechnical report, barrier manufacturer's written recommendations and coordinated with the finishes specified by the Architect.

CAST-IN-PLACE CONCRETE

- REFERENCE STANDARDS:** Conform to:
- ACI 301-10 "Specifications for Structural Concrete"
 - IBC Chapter 19 "Concrete"
 - ACI 318-11/318R-11 "Building Code Requirements for Structural Concrete"
 - ACI 117-10 "Specifications for Tolerances for Concrete Construction and Materials"

FIELD REFERENCE: The contractor shall keep a copy of ACI Field Reference manual, SP-15, "Standard Specifications for Structural Concrete (ACI 301) with Selected ACI and ASTM References."

CONCRETE MIXTURES: Conform to ACI 301 Section 4 "Concrete Mixtures" and IBC Section 1904.3.

MATERIALS: Conform to ACI 301 Section 4.2.1 "Materials" for requirements for cementitious materials, aggregates, mixing water and admixtures.

SUBMITTALS: Provide all submittals required by ACI 301 Section 4.1.2. Submit mix designs for each mix in the table below. Substantiating strength results from past tests shall not be older than 24 months per ACI 318 Section 5.3.

TABLE OF MIX DESIGN REQUIREMENTS

Member Type/Location	Strength (f'c (psi))	Test Age (days)	Maximum Aggregate	Exposure Class	Max W/C Ratio	Air Content (%)	Notes (1 to 8 Typical UNO)
Footings & Pile Cap	4000	28	1"	-	-	-	-
Interior Slabs on Grade	3000	28	1"	-	0.45	-	-
Slabs on Metal Deck	3500	28	1"	-	0.45	-	-
Misc Interior Building Walls	4000	28	1"	-	-	-	-
Basement Walls	4000	28	1"	-	0.45	5%	-
Stem Walls & Curbs	4000	28	1"	-	-	-	-

Table of Mix Design Requirements Notes:

- W/C Ratio: Water-cementitious material ratios shall be based on the total weight of cementitious materials. Maximum ratios are controlled by strength noted in the Table of Mix Design Requirements and durability requirements given in ACI 318 Section 4.3.
- Materials:
 - The use of fly ash, other pozzolans, silica fume, or slag shall conform to ACI 318 Sections 4.3.1 and 4.4.2. Maximum amount of fly ash shall be 25% of total cementitious content unless reviewed and approved otherwise by SER.
 - For concrete used in elevated floors, minimum cementitious-materials content shall conform to ACI 301 Table 4.2.2.1. Acceptance of lower cement content is contingent on providing supporting data to the SER for review and acceptance.
 - Cementitious materials shall conform to the relevant ASTM standards listed in ACI 318 Section 3.2.1.

- Air Content: Conform to ACI 318 Section 4.4.1. Minimum standards for exposure class are noted in the table. If freezing and thawing class is not noted, air content given is that required by the SER. Tolerance is ±1-%. Air content shall be measured at point of placement.
- Aggregates shall conform to ASTM C33.
- Slump: Conform to ACI 301 Section 4.2.2.2. Slump shall be determined at point of placement.
- Chloride Content: Conform to ACI 318 Section 4.3.1.
- Non-chloride accelerator: Non-chloride accelerating admixture may be used in concrete placed at ambient temperatures below 50°F at the contractor's option.
- ACI 318, Section 4.2.1 exposure classes shall be assumed to be F2 unless different exposure classes are listed in the Table of Mix Design Requirements that modify these base requirements.

FORMWORK & RESHORING: Conform to ACI 301 Section 2 "Formwork and Form Accessories." Removal of Forms shall conform to Section 2.3.2 except strength indicated in Section 2.3.2.5 shall be 0.75 f'c.

MEASURING, MIXING, AND DELIVERY: Conform to ACI 301 Section 4.3.

HANDLING, PLACING, CONCRETING AND CURING: Conform to ACI 301 Section 5. In addition, hot weather concreting shall conform to ACI 305.1-06 and cold weather concreting shall conform to ACI 306.1-90.

CONSTRUCTION JOINTS: Conform to ACI 301 Sections 2.2.2.5, 5.2.2.1 and 5.3.2.6. Construction joints shall be located and detailed as on the construction drawings. Submit alternate locations per ACI 301 Section 5.1.2.3a for review and approval by the SER two weeks minimum prior to forming. Use of an acceptable adhesive, surface retardant, portland cement grout or roughening the surface is not required unless specifically noted on the drawings.

EMBEDDED ITEMS: Position and secure in place expansion joint material, anchors and other structural and non-structural embedded items before placing concrete. Contractor shall refer to mechanical, electrical, plumbing and architectural drawings and coordinate other embedded items.

GROUT: Use 7000 psi non-shrink grout under column base plates.

POST-INSTALLED ANCHORS TO CONCRETE: Anchor location, type, diameter and embedment shall be as indicated on drawings. Reference the POST INSTALLED ANCHORS section for applicable Post-Installed Anchor Adhesives. Anchors shall be installed and inspected in strict accordance with the applicable ICC-Evaluation Service Report (ESR). Special inspection shall be per the TESTS and INSPECTIONS section.

FLOOR FINISHES: The contractor must provide and correctly install an isolation membrane and properly detailed expansion joints to help minimize cracking of finishes with cementitious setting beds or finish properties (ie, stone, terrazzo, concrete topping, etc). The expansion joints shall be sized for an expected shortening movement of 0.01 inches per foot.

CLADDING CONNECTIONS AND SLAB SHORTENING: At the time of installation, the cladding connection design shall accommodate a typical future vertical movement at each free end of ½ inch or L/600, whichever is greater, due to variable live loading and creep. This displacement will occur at the floor level of cantilever beams and at midspan of edge slabs and beams.

STRENGTH TESTING AND ACCEPTANCE

Testing: Obtain samples and conduct tests in accordance with ACI 301 Section 16.3.2. Additional samples may be required to obtain concrete strengths at alternate intervals than shown below.

- Cure 4 cylinders for 28-day test age test 1 cylinder at 7 days, test 2 cylinders at 28 days, and hold 1 cylinder in reserve for use as the Engineer directs. After 56 days, unless notified by the Engineer to the contrary, the reserve cylinder may be discarded without being tested for specimens meeting 28-day strength requirements.
- The number of cylinders indicated above referenced 6 by 12 in cylinders. If 4 by 8 in cylinders are to be used, additional cylinders must be cured for testing of 3 cylinders at test age per the table of mix design requirements.

Acceptance: Strength is satisfactory when:

- The averages of all sets of 3 consecutive tests equal or exceed the specified strength.
- No individual test falls below the specified strength by more than 500 psi.

A "test" for acceptance is the average strength of two 6 by 12 in. cylinders or three 4 by 8 in. cylinders tested at the specified test age.

CONCRETE PLACEMENT TOLERANCE: Conform to ACI 117-10 for concrete placement tolerance.

CONCRETE REINFORCEMENT

REFERENCE STANDARDS: Conform to:

- ACI 301-10 "Standard Specifications for Structural Concrete", Section 3 "Reinforcement and Reinforcement Submittals"
- ACI SP-66-04 "ACI Detailing Manual" including ACI 315-99 "Details and Detailing of Concrete Reinforcement"
- CRSI MSP-09, 28" Edition, "Manual of Standard Practice"
- ANSI/AWS D14 "Structural Welding Code - Reinforcing Steel"
- IBC Chapter 19-Concrete
- ACI 318-11 "Building Code Requirements for Structural Concrete"
- ACI 117-10 "Specifications for Tolerances for Concrete Construction and Materials"

SUBMITTALS: Conform to ACI 301 Section 3.1.1 "Submittals, data and drawings." Submit placing drawings showing fabrication dimensions and locations for placement of reinforcement and reinforcement supports.

MATERIALS:

Reinforcing Bars.....	ASTM A615, Grade 60, deformed bars.
Weldable Reinforcing Bars.....	ASTM A706, Grade 60, deformed bars.
Deformed Welded Wire Fabric.....	ASTM A497
Bar Supports.....	CRSI MSP-09, Chapter 3 "Bar Supports."
Tie Wire.....	16 gage or heavier, black annealed.
Headed Deformed Bars.....	ASTM A970

FABRICATION: Conform to ACI 301, Section 3.2.2 "Fabrication," and ACI SP-66 "ACI Detailing Manual."

WELDING: Bars shall not be welded unless authorized. When authorized, conform to ACI 301, Section 3.2.2.2 "Welding," AWS D1.4, and provide ASTM A706, grade 60 reinforcement.

PLACING: Conform to ACI 301, Section 3.3.2 "Placement." Placing tolerances shall conform to ACI 117.

CONCRETE COVER: Conform to the following cover requirements unless noted otherwise in the drawings.
Concrete cast against earth..... 3"
Concrete exposed to earth or weather..... 2"
Ties in columns and beams..... 1-½"

SPICES: Conform to ACI 301, Section 3.3.2.7, "Splices." Refer to "Typical Lap Splice and Development Length Schedule" for typical reinforcement splices. Refer to "Column Vertical Reinforcing Splice Schedule" and "Shear Wall Reinforcing Splice Schedule" for those specified elements. Splices indicated on individual sheets shall control over the schedule. Mechanical connections may be used when approved by the SER. For reinforcing connecting the diaphragm slab to the lateral system, mechanical splice strength is increased to develop 100 percent of the specified tensile strength of the splices bar.

FIELD BENDING: Conform to ACI 301 Section 3.3.2.8 "Field Bending or Straightening." Bar sizes #3 through #5 may be field bent cold the first time. Other bars require preheating. Do not twist bars. Bars shall not be bent past 45 degrees.

POST-INSTALLED ANCHORS INTO CONCRETE

REFERENCE STANDARDS: Conform to:

- IBC Chapter 19 "Concrete"
- ACI 318-11 "Building Code Requirements for Structural Concrete"
- IBC Chapter 21 "Masonry"
- ACI 530-11/ASCE 5-11/TMS402-11 "Building Code Requirements for Masonry Structures"

POST-INSTALLED ANCHORS: Install only where specifically shown in the details or allowed by SER. All post-installed anchors types and locations shall be approved by the SER and shall have a current ICC-Evaluation Service Report that provides relevant design values necessary to validate the available strength exceeds the required strength. Submit current manufacturer's data and ICC ESR report to SER for approval regardless of whether or not it is a pre-approved anchor. Anchors shall be installed in strict accordance to ICC-ESR and manufacturer's instructions. No reinforcing bars shall be damaged during installation of post-installed anchors. Special inspection shall be per the TESTS and INSPECTIONS section. Anchor type, diameter and embedment shall be as indicated on drawings.

- ADHESIVE ANCHORS:** The following Adhesive-type anchoring systems have been used in the design and shall be used for anchorage to CONCRETE, as applicable and in accordance with corresponding current ICC ESR report. Drilled-in anchor embedment lengths shall be as shown on drawings, or not less than 7 times the anchor nominal diameter (7D).

- HILTI "HIT-HY 200" – ICC ESR-3187 for anchorage to CONCRETE with embedment depth less than or equal to 20 bar diameters
 - HILTI "HIT-RE 500 SD" – ICC ESR-2322 for anchorage to CONCRETE with any embedment depth
 - SIMPSON "SET-XP" – ICC ESR 2508 for anchorage to CONCRETE
- EXPANSION ANCHORS:** The following Expansion type anchors are pre-approved for anchorage to CONCRETE or MASONRY in accordance with corresponding current ICC ESR report:
 - HILTI "KNIX BOLT T2" – ICC ESR-1917 for CONCRETE Only
 - SIMPSON "STRONG-BOLT 2" – ICC ESR-3037 for CONCRETE
 - SCREW ANCHORS:** The following Screw type anchor is pre-approved for anchorage to CONCRETE or MASONRY in accordance with corresponding current ICC ESR report:
 - SIMPSON "TITEN HD" – ICC ESR-2713 for CONCRETE
 - HILTI "HUI-EZ" – ICC ESR-3027 for anchorage to CONCRETE

STRUCTURAL STEEL

REFERENCE STANDARDS: Conform to:

- IBC Chapter 22 – "Steel"
- ANSI/AISC 303-10 – "Code of Standard Practice for Steel Buildings & Bridges"
- ANSI/AISC 325-10 – "Steel Construction Manual"
- ANSI/AISC 360-10 – "Specification for Structural Steel Buildings"
- AWS D1.1:2010 – "Structural Welding Code – Steel"
- 2009 RCSC – "Specification for Structural Joints Using High-Strength Bolts"

SUBMITTALS: Submit the following documents to the SER for review:

- SHOP DRAWINGS complying with AISC 360 Sections M1and N3 and AISC 303 Section 4.
- ERECTION DRAWINGS complying AISC 360 Sections M1and N3 and AISC 303 Section 4.
- Field Procedure Specifications (WPS's) for shop and field welding
- Manufacturer's Certificates of Conformance for electrodes, fluxes and gases (welding consumables).

Make copies of the following documents "Available upon Request" to the SER or Owner's Inspection Agency in electronic or printed form prior to fabrication per AISC 360 Section N3.2 requirements:

- Fabricator's written Quality Control Manual that includes, as a minimum:
 - Material Control Procedures
 - Inspection Procedures
 - Non-conformance Procedures
- Steel & Anchor Rod suppliers' Material Test Reports (MTR's) indicating the compliance with specifications.
- Fastener manufacturer's Certification documenting conformance with the specification.
- File metal manufacturer's product data for SMAW, FCAW and GMAW indicating:
 - Product specification compliance
 - Recommended welding parameters
 - Recommended storage and exposure requirements including baking
 - Limitations of use
- Welded Headed (Shear) Stud Anchors Manufacturer's certification indicating the meet specifications.
- Procedure Qualification Records (PQR's) for WPS's that are not prequalified in accordance with AWS.
- Welding personnel Performance Qualification Records (WPQR) and continuity records conforming to AWS standards and WABO standards as applicable for Washington State projects.

MATERIALS:

Structural steel materials shall conform to materials and requirements listed in AISC 360 section A3 including, but not limited to:

Wide Flange (W), Tee (WT) Shapes.....	ASTM A992	Fy = 50 ksi
Structural (S), (M) & (HP) Shapes.....	ASTM A36	Fy = 36 ksi
Channel (C) & Angle (L) Shapes.....	ASTM A36	Fy = 36 ksi
Structural Plate (PL).....	ASTM A36	Fy = 36 ksi
Hollow Structural Section – Square/Rect (HSS).....	ASTM A500, Grade B	Fy = 46 ksi
Structural Pipe, (PIPE) 12" dia. and less.....	ASTM A53, Grade B	Fy = 35 ksi
High Strength, Heavy Hex Structural Bolts.....	ASTM A325/F1852, Type 1 or 3, Plain	
High Strength, Heavy Hex Structural Bolts.....	ASTM A325/F1852, Type 1, Galvanized/Mechanically Galv	
Heavy Hex Nuts.....	ASTM A563, Grade and Finish per RCSC Table 2.1	
Washers (Hardened Flat Beveled).....	ASTM A438, Grade and Finish per RCSC Table 2.1	
Compressible Washer DTI.....	ASTM F959-09 Direct Tension Indicators	
Anchor Rods (Anchor Bolts, typical).....	ASTM F1554, Gr. 36	
Mild Threaded Rods.....	ASTM A36	Fy = 36 ksi
Welded Headed (shear) Stud Anchors.....	ASTM A108 – Nelson/TRW S3L	
Welded Headed Stud (WHS) Anchors.....	ASTM A108 – Nelson/TRW H4L	
Dowel Bar Anchors (DBA).....	ASTM A496 – Nelson/TRW D2L, Fy = 70 ksi	

STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS:

- ASTM A325-N bolts – "threads NOT excluded in the shear plane".
- High-strength bolted joints have been designed as "BEARING" connections.
- Provide ASTM Bolt Grade and Type as specified in the Materials section above.
- Provide Washers over outer ply of slotted holes and oversize holes per RCSC Table 6.1.
- Provide Nut and Washer grades, types and finishes conforming to RCSC specification Table 2.1.
- Provide fastener assemblies from a single supplier.
- Joint Types shall be:
 - ST – "Snug Tight", for typical beam end "shear" connections, unless noted otherwise.
- Install bolts in joints in accordance with the RCSC Specification Section 8 and Table 4.1.
- Inspection is per RCSC Section 9.

ANCHORAGE TO CONCRETE

- SHEAR STUDS ON STEEL BEAMS FOR COMPOSITE CONSTRUCTION:** Headed Shear Studs welded to tops of Wide Flange Beams, shall be 3/4" diameter WHS with nominal stud lengths as indicated. Unless noted otherwise, provide minimum shear stud height equal to the (metal deck depth + 1 ½") and a maximum shear stud height that allows for ½" of concrete cover over the stud.
 - EMBEDDED STEEL PLATES BY ANCHORAGE TO CONCRETE:** Plates (PL) embedded in concrete with studs (WHS) or dowel bar anchors (DBA) shall be of the sizes and lengths as indicated on the plans with minimum 1/2" dia. WHS x 6" long but provide not less than ¼" interior cover or 1 ½" exterior cover to the opposite face of concrete, unless noted otherwise.
 - COLUMN ANCHOR RODS AND BASE PLATES:** All columns (vertical member assemblies weighing over 300 pounds) shall be provided with a minimum of four ¾" diameter anchor rods. Column base plates shall be at least ¾" thick, unless noted otherwise. Cast-in-place anchor rods shall be provided unless otherwise approved by the Engineer. Unless noted otherwise, embedment of cast-in-place anchor rods shall be 12 times the anchor diameter (12D).
- FABRICATION:**
- Conform to AISC 360 Section M2 "Fabrication" and AISC 303 Section 6 "Shop Fabrication".
 - Quality Control (QC) shall conform to:
 - ASTM 360 Chapter N "Quality Control and Quality Assurance" and
 - ASTM 303 Section 8 "Quality Control"
 - Fabricator and Erector shall establish and maintain written Quality Control (QC) procedures per AISC 360 section N3.
 - Fabricator shall perform self-inspections per AISC 360 section N5 to ensure that their work is performed in accordance with Code of Standard Practice, the AISC Specification, Contract Documents and the Applicable Building Code.
 - QC inspections may be coordinated with Quality Assurance inspections per Section N5.3 where fabricators QA procedures provide the necessary basis for material control, inspection, and control of the workmanship expected by the Special Inspector.

WELDING:

- Welding shall conform to AWS D1.1 with Prequalified Welding Processes except as modified by AISC 360 section J2. Welders shall be qualified in accordance with AWS D1.1 WABO, requirements.
- Use 70ksi strength, low-hydrogen type electrodes (E7018) or E71T as appropriate for the process selected.
- Welding of high strength anchor rods is prohibited unless approved by Engineer.
- Welding of headed stud anchors shall be in accordance with AWS D1.1 Chapter 7 "Stud Welding".

ERECTION:

- Conform to AISC 360 Section M4 "Erection" and AISC 303 Section 7 "Erection".
- Conform to AISC 360 Chapter N "Quality Control and Quality Assurance" and AISC 303 Section 8.
 - The Erector shall maintain detailed erection quality control procedures that ensure that the work is performed in accordance with these requirements and the Contract Documents.
- Steel work shall be carried up true and plumb within the limits defined in AISC 303 Section 7.13.
- High strength bolting shall comply with the RCSC requirements including per RCSC Section 7.2 "Required Testing", as applicable and AISC 360 Chapter 1, Section M2.5 and Section N6.6.
- Welding of HEADED STUD ANCHORS shall be in accordance with AWS D1.1 Chapter 7 "Stud Welding".
- Provide Headed (Shear) Stud Anchors welded through the metal deck to tops of beams denoted in plans.
- The contractor shall provide temporary bracing and safety protection required by AISC 360 Section M4.2 and AISC 303 Section 7.10 and 7.11.

PROTECTIVE COATING REQUIREMENTS:

- SHOP PAINTING: Conform to AISC 360 Section M3 and AISC 303 Section 6.5 unless otherwise specified by the project specifications.
- INTERIOR STEEL:
 - Unless noted otherwise, **do not paint** any of the steel surfaces meeting the following conditions:
 - Concealed by the interior building finishes,
 - Fireproofed,
 - Embedded in concrete,
 - Specially prepared as a "laying surface" for Type-SC "slip-critical" connections including bolted connections that form a part of the Seismic Force Resisting System governed by AISC 341 unless the coating conforms to requirements of the RCSC Bolt Specification and is approved by the Engineer.
 - Welded; if area requires painting, do not paint until after weld inspections and non-destructive testing requirement, if any, are satisfied.
 - Interior steel, exposed to view, shall be painted with one coat of shop primer unless otherwise indicated in the project specifications. Field touch-ups to match the finish coat or as otherwise indicated in the project specifications.
- EXTERIOR STEEL: Exposed exterior steel shall be protected by either:
 - Paint with an exterior multi-coat system as per the project specifications. Field touch-up painting shall as per the project specifications.
 - Galvanizing: Unless protected with a paint system, exposed steel (outside the building envelope) shall be hot-dipped galvanized, where noted on the plans or otherwise indicated by the finishes specified by the Architect. Apply field touch-ups per project specifications.

METAL ROOF AND FLOOR DECK

REFERENCE STANDARDS: Conform to:

- ICC Report ESR-1735P reissued January 1, 2013
- ANSI NAS - American Iron and Steel Institute North American Specifications" or ASCE 8-02 - "Specification for the Design of Cold-Formed Stainless Steel Structural Members"
- NASPEC 2007 – "North American Specification for the Design of Cold-Formed Steel Structural Members"
- ANSI - "Specification for the Design of Cold-Formed Steel Structural Members",
- AWS D1.3 - "Structural Welding Code - Sheet Steel"

SUBMITTALS: Submit shop drawings to the Architect/Engineer for review. Shop drawings shall include material type, design loads, diaphragm capacities, span layout by SSE, deck attachments, metal deck edge form design, and shoring requirements. All openings shall be indicated. Any alternate deck types and gages shall be submitted to the Architect/Engineer for review prior to fabrication and shall include a valid ICC evaluation report, calculations & shop drawings (component design drawings) stamped by the SSE.

MATERIAL: ASTM A653 – SS Designation, Grade 33, Zinc coated per A653, G60. Minimum yield strength shall be 38 ksi.

TYPE: Deck shall be "Vercro" type as shown on the structural drawings based on 3-span, unshored condition. Shoring is required for conditions other than 3-span. To eliminate shoring, the contractor may choose to use a heavier gage deck with approval by the SER.

DIAPHRAGM CAPACITY: Deck and attachments shall be capable of resisting the diaphragm shears where indicated on the drawings. Submit ICC Evaluation Report as proof of compliance.

INSTALLATION: Install deck in accordance with supplier's instructions and shop drawings. Attachments shall resist the uplift forces and the diaphragm shear forces shown on the drawings. Welding shall conform to AWS D1.3. Welders shall have current WABO Light Gage Certification. Minimum end lap shall be 2" centered over supports. Minimum bearing shall be 2."

OPENINGS: Deck openings less than 6" do not require reinforcement. For larger openings, refer to typical details.

ACCESSORIES: Deck manufacturer shall furnish shoring plans, closure plates, ridge and valley plates, cant strips, sump pans, flashing and all other light gage steel material required to complete the work.

CONCRETE FILL: Conform to notes this sheet for CAST-IN-PLACE CONCRETE and CONCRETE REINFORCEMENT. Provide minimum 3000 psi concrete and WWP 6x6-W1.4xW1.4 unless noted otherwise. Splice welded wire reinforcement per ACI 318 Section 12.19 or 12.12 minimum.

DECK FASTENING: Minimum deck fastening shall be as follows, unless noted otherwise on the drawings:

- TYPE "B" ROOF DECK:**
 - 1/2" diameter puddle welds each rib with 36/4 pattern at transverse and perimeter supports.
 - 1/2" diameter puddle welds each rib at 24" OC at longitudinal supports.
 - Vercro PunchLoc at 12" OC at side lap connections.

- TYPE "W2" FORMLOCK FLOOR DECK:**
 - 1/2" diameter puddle welds each rib with 36/3 pattern at transverse and perimeter supports.
 - 1/2" diameter puddle welds at 12" OC at longitudinal supports.
 - Button punch at 24" OC at side lap connections.

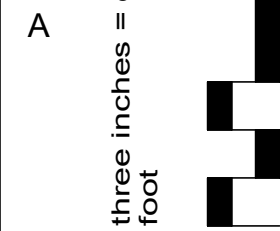
COLD-FORMED STEEL FRAMING

REFERENCE STANDARDS: Conform to:

- ANSI "North American Specification for the Design of Cold-Formed Steel Structural Members - 2007 Edition."
- ANSI "Standard for Cold Formed Steel Framing – General Provisions"
- ANSI "Standard for Cold Formed Steel Framing – Header Design"
- ANSI "Standard for Cold Formed Steel Framing – Lateral Design"
- ANSI "Standard for Cold Formed Steel Framing – Truss Design"
- AWWC "Wall and Ceiling Standards" Sec. 9.8 "Exterior Steel Studs Wall Systems."
- AWS D1.3 "Structural Welding Code - Sheet Steel"

S

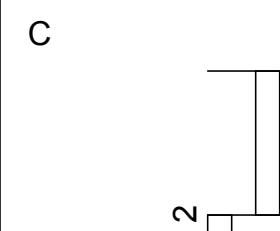
A



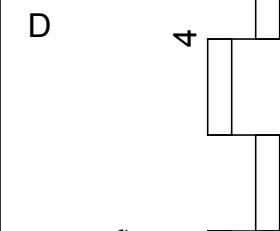
B



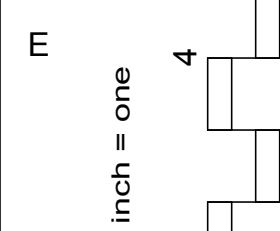
C



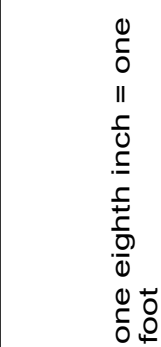
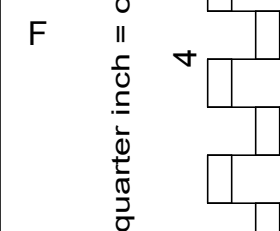
D



E



F



A

B

C

D

E

F

ERECTION AND TOLERANCES: Axial load bearing cold-formed steel framing shall be erected true and plumb per the requirements and within the specified tolerances listed below. For purposes of this section, camber is defined as the deviation from straightness of a member or any portion of a member with respect to its major axis, and sweep is defined as the deviation from straightness of a member or any portion of a member with respect to its minor axis.

- For track, camber shall not exceed 1/1000th of the member length.
- Erect framing in accordance with manufacturer's instruction and shop drawings.

FIELD CUTS AND NOTCHES: Field cuts and notches of any kind (including widening pre-punched holes) are NOT allowed in any structural cold-formed steel member without prior approval from SER.

STEEL STAIRS

REFERENCE STANDARDS: Conform to:

- 1) I Chapter 10 – "Means of Egress", IBC Table 1607.1
- 2) NAAMM – "Metal Stairs Manual"
- 3) ANSI/AISC 360-10 – "Specification for Structural Steel Buildings"
- 4) AISI 2007 – "North American Specification for the Design of Cold-Formed Steel Structural Members"
- 5) AWS D1.1-10BC "Structural Welding Code - Steel",
- 6) AWS D1.3-06 "Structural Welding Code - Sheet Steel."

SUBMITTALS: Steel stairs are to be prepared by a SSE. Reference DEFINITIONS and DEFERRED SUBMITTALS above. Submit structural calculations and shop drawings (component design drawings) stamped by a professional Civil Engineer registered in the state of Washington.

MATERIALS:

- Structural WF Shapes ASTM A992-GR50
- Steel Channels, Angles, Plates & Bar ASTM A36
- Sheet Steel (Galvanized) ASTM A446
- Steel Pipe Rail ASTM A53, Grade B
- Steel Tubing ASTM A500, Grade B
- Steel Rod ASTM A36 or A307
- Steel Deck 1-1/2" Composite Floor Deck
- Bolts ASTM A325N
- Welds, Structural Steel AWS D1.1
- Welds, Sheet Steel AWS D1.3
- Welded Headed Studs (WHS) ASTM A108, AWS D1.1
- Headed Concrete Anchors (HCA) ASTM A108, AWS D1.1

STRUCTURAL REQUIREMENTS:

- (1) **Scope:** Include treads, risers, stringers, landings, railings and all connections including connections to the primary structure unless noted otherwise. All inserts required for attachment to the primary structure shall be designed and provided by the stair supplier.
- (2) **Loads:** Stair treads shall be designed for 100 PSF live load or a 300 lb. concentrated load placed to produce maximum stress, whichever controls. Stringers and landings shall be designed for 100 PSF live load. Live load deflection shall not exceed 1/360 of the span. The stair assembly and attachment to the main structure shall be designed for lateral loads per IBC Chapter 16.
- (3) **Railings:** The completed handrail, guardrail, and supporting structure and their connections shall be designed to resist loads as specified in IBC Section 1607.8.

ARCHITECTURAL REQUIREMENTS: Conform to shape and configuration shown on the architectural drawings. Consult the project specifications for additional information. All steel shall be painted, per project specifications with one coat of standard shop primer unless noted otherwise on the drawings or in the specifications.

CONCRETE FILL: Conform to notes, this sheet for CAST-IN-PLACE CONCRETE and CONCRETE REINFORCEMENT. Provide minimum 3500 psi concrete and WWF 6x6-W2.9xW2.9 or Fibermesh unless noted on the drawings.

**BID DOCUMENT
NOVEMBER 02, 2015**

	BID DOCUMENT	11/02/15
	100% CONSTRUCTION DOCUMENT	01/26/15
		12/30/14
	99% CONSTRUCTION DOCUMENT	12/11/14
	95% CONSTRUCTION DOCUMENT	10/13/14
	65% DESIGN DEVELOPMENT	06/27/14
	SCHEMATIC DESIGN	03/28/14
Revisions	Issues	Date

CONSULTANTS:



ENGINEERS
801 W RIVERSIDE SUITE 600
SPOKANE, WASHINGTON 99201
PHONE: (509) 455-4448 • FAX: (509) 455-7462
WEBSITE: www.edc-engineers.com
CIVIL / STRUCTURAL
DCI JOB NO. 13041-0246

ARCHITECT/ENGINEERS:



ARCHITECTS
14410 SE PETROVITSKY ROAD SUITE 206
RENTON, WA 98058
425-291-7078

Drawing Title
GENERAL NOTES

Approved: Project Director

Project Title
**INTENSIVE OUTPATIENT MENTAL HEALTH
AND EDUCATION BUILDING**
4815 NORTH ASSEMBLY ST.
SPOKANE, WASHINGTON 99205

Location
SPOKANE, WASHINGTON 99205

Issue Date
11/02/2015

Checked
CJL

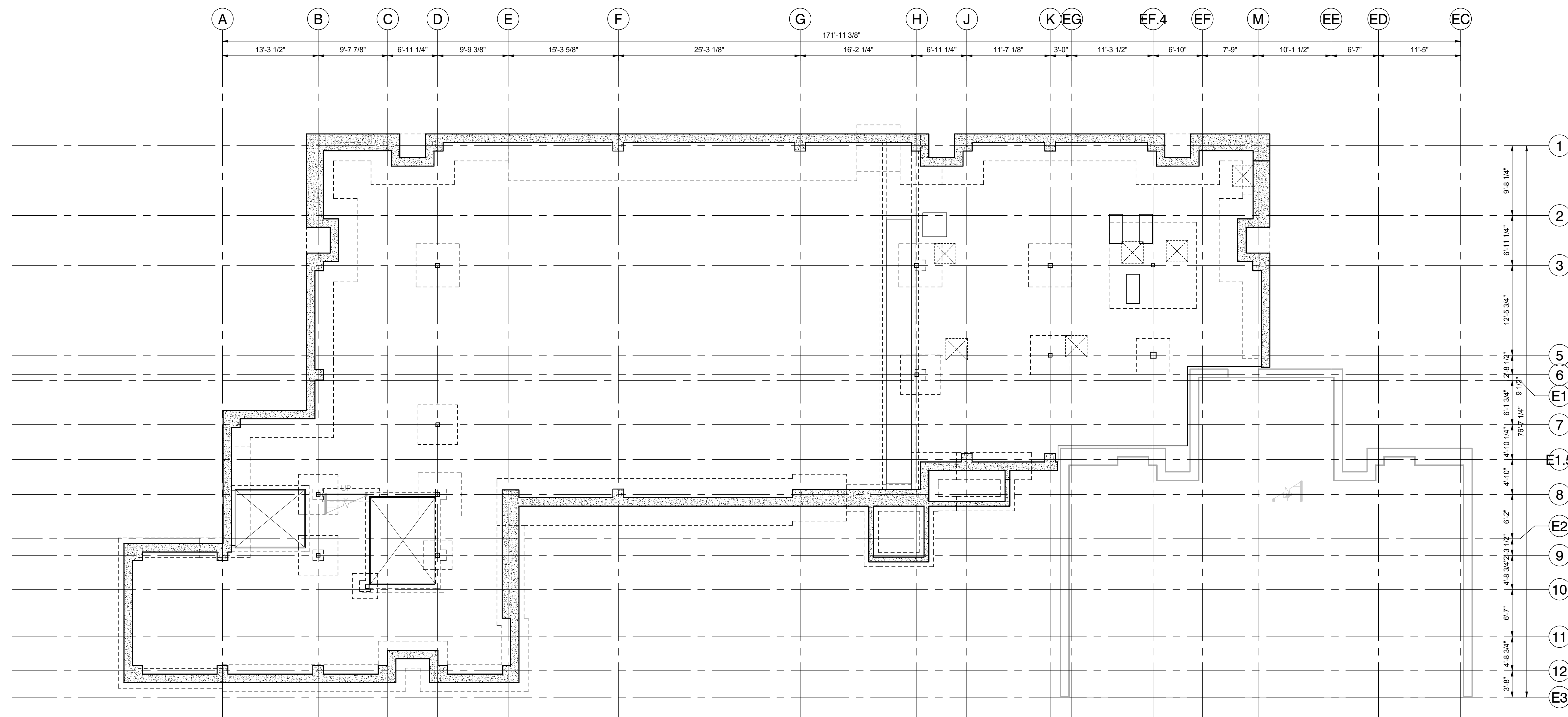
Drawn
JWH

Project Number
668-313
Building Number
40A

Drawing Number
S003
Dwg. of

Office of
Construction
and Facilities
Management

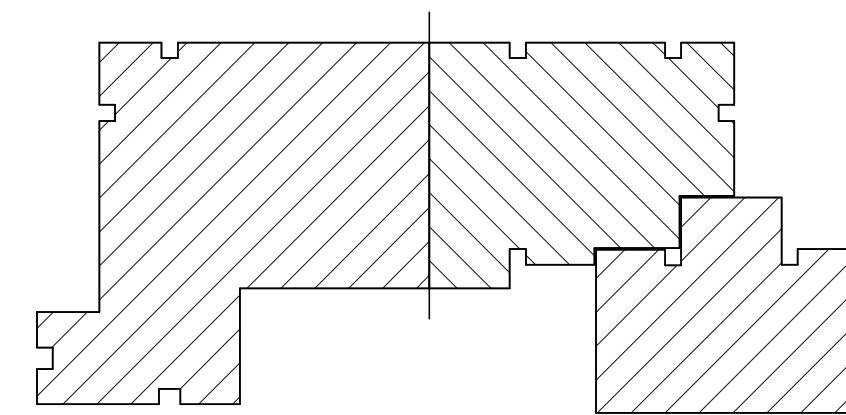




FOUNDATION PLAN NOTES:

1. STRUCTURAL GENERAL NOTES, DESIGN CRITERIA, ABBREVIATIONS AND LEGEND PER S001 THROUGH S003.
2. VERIFY ALL DIMENSIONS AND ELEVATIONS WITH THE ARCHITECTURAL DRAWINGS. ALL EXISTING DIMENSIONS SHALL BE FIELD VERIFIED.
3. CONTRACTOR SHALL LOCATE AND VERIFY THE FOLLOWING WITH OTHERS PRIOR TO POURING CONCRETE: ALL DOOR OPENINGS IN FOUNDATION WALLS; DRAINS AND SLOPES, BLOCKOUTS FOR PLUMBING, SPRINKLERS AND HVAC. ALL DUCTS, CHASES AND PIPES PER MECHANICAL, PLUMBING, ELECTRICAL AND SPRINKLER DRAWINGS. STAIR DETAILS AND HANDRAILS PER ARCHITECTURAL DRAWINGS. CONCRETE CURBS AND LOCATIONS PER ARCHITECTURAL DRAWINGS.
4. TOP OF SLAB (T/SLAB) ELEVATION ASSUMED 1906'-0". PROVIDE 10 MIL VAPOR BARRIER BELOW SLAB AT INTERIOR SPACES. PROVIDE FREE-DRAINING FILM PER GEOTECH REPORT.
5. TYPICAL TOP OF INTERIOR (T/INTERIOR) FOOTING ELEVATION = 1907'-4". UNO. TYPICAL TOP OF EXTERIOR (T/EXTERIOR) FOOTING ELEVATION = 1907'-4".
6. ALL FOOTINGS AND SLABS TO BEAR ON COMPETENT NATIVE SOIL AND/OR STRUCTURAL FILM. SUBGRADE PREPARATION, STRUCTURAL FILM, FOOTING DRAINS, AND OTHER REQUIREMENTS PER GEOTECH REPORT AS NOTED IN THE STRUCTURAL GENERAL NOTES.
7. CJ INDICATES CONTROL JOINT PER PLAN.
8. CONTRACTOR TO VERIFY TOP OF CONCRETE (T/CONC) WALL ELEVATIONS ON ALL PARTIAL HEIGHT RETAINING WALLS.
9. MOISTURE PROOF ALL CONCRETE STEM AND BASEMENT WALLS PER ARCHITECT.
10. STEEL STAIRS SHALL BE BIDDER-DESIGNED. UNO. APPLICABLE DESIGN REQUIREMENTS PER STRUCTURAL GENERAL NOTES.
11. TYPICAL DETAILS PER:

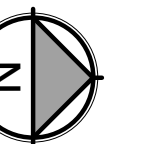
2/3/301	TYPICAL STEPPED FOOTING
4/3/301	TYPICAL CONCRETE WALL OPENING REINFORCEMENT
5/3/301	TYPICAL LAP SPlice SCHEDULE
8/3/301	PLAN - TYPICAL REINFORCING AT SLAB EDGE CORNERS
10/3/301	STANDARD HOOKS AND BAR BENDS
11/3/301	TYPICAL BASE PLATE CONFIGURATIONS
14/3/301	TYPICAL SLAB ON GRADE JOINT DETAILS WITH REINFORCING
15/3/301	PLAN - TYPICAL CORNER REINFORCING AT CONCRETE WALLS (DOUBLE MAT)
1/3/302	PIPE OR CONDUIT EMBEDDED IN SLAB ON GRADE
3/3/302	TYPICAL PIPE AND TRENCH LOCATIONS AT CONCRETE STEMWALL/FOOTING
4/3/302	PLAN - TYPICAL CORNER REINFORCING AT CONCRETE FOOTINGS
5/3/302	PLAN - TYPICAL CORNER REINFORCING AT CONCRETE WALLS (SINGLE MAT)



KEY PLAN
NOT TO SCALE

BASEMENT/FOUNDATION OVERALL PLAN (1)

SCALE: 1/8" = 1'-0"



**BID DOCUMENT
NOVEMBER 02, 2015**

	BID DOCUMENT	11/02/15
	100% CONSTRUCTION DOCUMENT	01/26/15
		12/30/14
	99% CONSTRUCTION DOCUMENT	12/11/14
	95% CONSTRUCTION DOCUMENT	10/13/14
	65% DESIGN DEVELOPMENT	06/27/14
	SCHEMATIC DESIGN	03/28/14
Revisions	Issues	Date

CONSULTANTS:



ARCHITECT/ENGINEERS:



14410 SE PETROVITSKY ROAD SUITE 206
RENTON, WA 98058
425-291-7078

Drawing Title	BASEMENT/FOUNDATION OVERALL PLAN
---------------	---

Approved: Project Director

Project Title	INTENSIVE OUTPATIENT MENTAL HEALTH AND EDUCATION BUILDING
---------------	--

4815 NORTH ASSEMBLY ST.
SPOKANE, WASHINGTON 99205

Location	SPOKANE, WASHINGTON 99205
----------	---------------------------

Issue Date	11/02/2015
------------	------------

Checke	CJL
--------	-----

Drawn
JWH

Project Number	668-313
----------------	---------

Building Number
40A

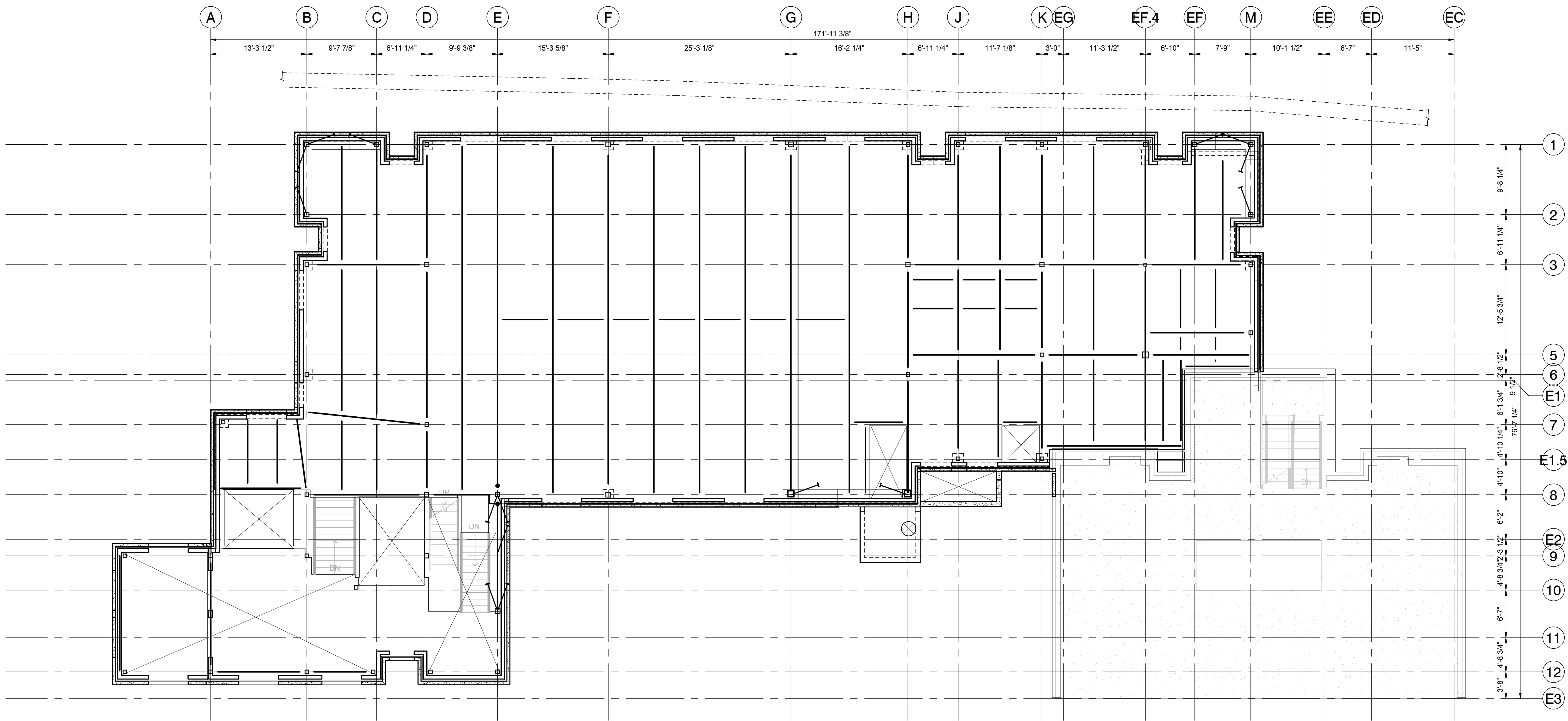
	Drawing Number
--	----------------

S101
Dwg. of

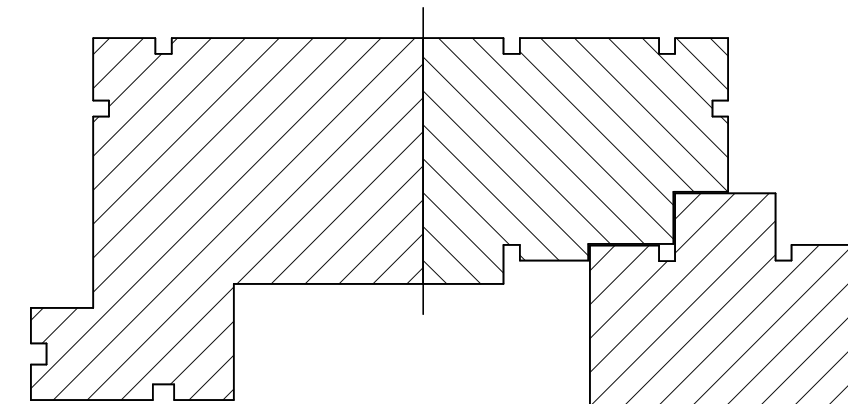
Office of
Construction
and Facilities
Management



three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
two half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot



- FLOOR FRAMING PLAN NOTES:**
- STRUCTURAL GENERAL NOTES, DESIGN CRITERIA, ABBREVIATIONS AND LEGEND PER S001 THROUGH S003.
 - VERIFY ALL DIMENSIONS AND ELEVATIONS WITH THE ARCHITECTURAL DRAWINGS. ALL EXISTING DIMENSIONS SHALL BE FIELD VERIFIED.
 - ALL DUCTS, CHASES AND PIPES SHALL BE PER MECHANICAL, PLUMBING, ELECTRICAL AND SPRINKLER DRAWINGS.
 - TOP OF SLAB ELEVATION (T/SLAB) = PER PLAN, UNO.
 - T/STL INDICATES TOP OF STEEL (T/STL) ELEVATION (T/STL = B/DECK, UNO. STEEL JOISTS SHALL BE EQUALLY SPACED, TYPICAL UNO.
 - FLOOR FRAMING SYSTEM SHALL BE OF COMPOSITE CONSTRUCTION. PROVIDE SHEAR STUDS 3/4"Ø, MIN x (DECK DEPTH + 1 1/2") LONG, SPACED PER 15S403. NUMBERS INDICATED ON PLAN IN PARENTHESES ADJACENT TO STEEL BEAM CALLOUT INDICATE THE MINIMUM NUMBER OF STUDS REQUIRED. AT BEAMS WHERE STUD QUANTITY IS OMITTED, PROVIDE STUDS @ 12"OC MAX.
 - CONCRETE OVER METAL DECK PER PLAN AND STRUCTURAL GENERAL NOTES. PROVIDE REINFORCING AS SHOWN ON PLAN AND DETAIL. DECK ATTACHMENT REQUIREMENTS PER STRUCTURAL GENERAL NOTES.
 - TYPICAL FLOOR DECK OVERHANG TO BE 6" FROM BEAM CENTERLINE, UNO.
 - STEEL STAIRS SHALL BE BIDDER-DESIGNED, UNO. APPLICABLE DESIGN REQUIREMENTS PER STRUCTURAL GENERAL NOTES.
 - BRACED FRAME MEMBER SIZES PER ELEVATIONS.
 - CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY SHORING.
 - TYPICAL DETAILS PER:
 - 1/S401 BEAM FLANGE BRACE (BEAMS PERPENDICULAR)
 - 3/S401 BEAM TO HSS COLUMN CONNECTIONS
 - 6/S401 BEAM FLANGE BRACE (BEAMS PARALLEL)
 - 7/S401 TYPICAL EMBEDDED PLATE BOLTED BEAM CONNECTIONS
 - 8/S401 SKEWED BOLTED BEAM CONNECTION
 - 10/S401 DOUBLE SHEAR PLATE (SINGLE ROW) CONNECTIONS
 - 15/S401 TYPICAL CANTILEVER OVER A BEAM
 - 1/S402 PLAN - TYPICAL DECK SUPPORT AT INTERIOR COLUMN
 - 10/S402 STEEL CONNECTION DETAILS
 - 12/S402 TYPICAL DECK OPENING REINFORCING DETAILS
 - 15/S402 TYPICAL DECK AT DISCONTINUITIES
 - 2/S403 TYPICAL REINFORCEMENT AT ROOF DRAINS
 - 7/S403 HOUSEKEEPING PAD ON CONCRETE OVER METAL DECKS
 - 9/S403 TYPICAL REINFORCED SLAB EDGE AT STEEL BEAM
 - 15/S403 TYPICAL COMPOSITE BEAM SHEAR STUD LAYOUT

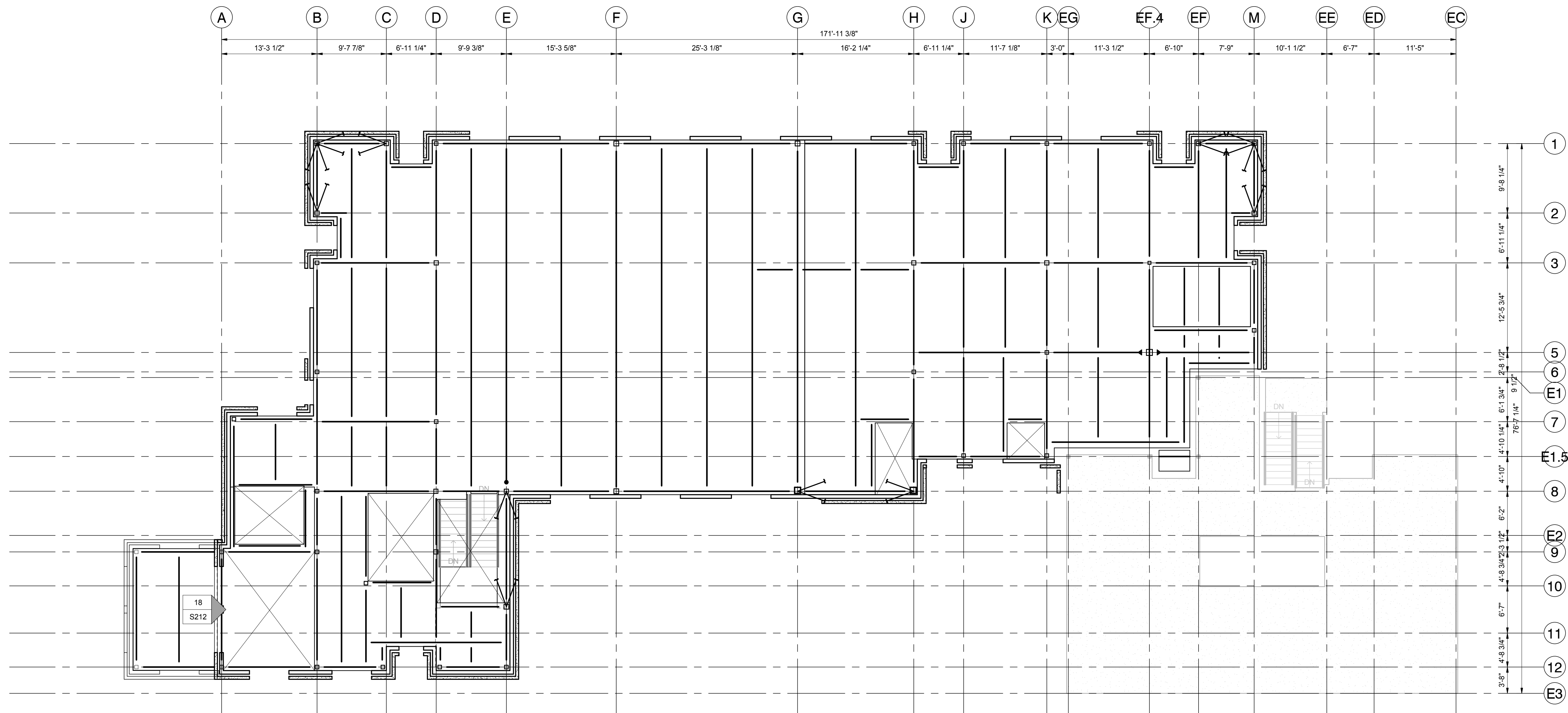


KEY PLAN
NOT TO SCALE

FIRST FLOOR OVERALL FRAMING PLAN
SCALE: 1/8" = 1'-0"

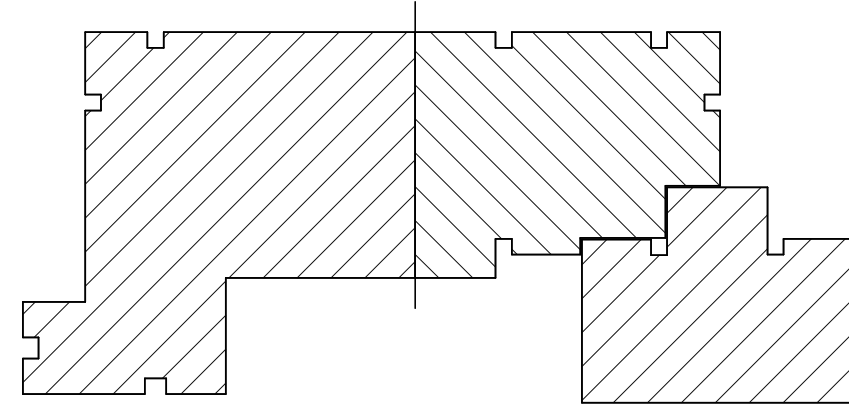
<table><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td>BID DOCUMENT</td><td>11/02/15</td></tr><tr><td></td><td>100% CONSTRUCTION DOCUMENT</td><td>01/26/15</td></tr><tr><td></td><td></td><td>12/30/14</td></tr><tr><td></td><td>99% CONSTRUCTION DOCUMENT</td><td>12/11/14</td></tr><tr><td></td><td>95% CONSTRUCTION DOCUMENT</td><td>10/13/14</td></tr><tr><td></td><td>65% DESIGN DEVELOPMENT</td><td>06/27/14</td></tr><tr><td></td><td>SCHEMATIC DESIGN</td><td>03/28/14</td></tr><tr><td>Revisions</td><td>Issues</td><td>Date</td></tr></table>											BID DOCUMENT	11/02/15		100% CONSTRUCTION DOCUMENT	01/26/15			12/30/14		99% CONSTRUCTION DOCUMENT	12/11/14		95% CONSTRUCTION DOCUMENT	10/13/14		65% DESIGN DEVELOPMENT	06/27/14		SCHEMATIC DESIGN	03/28/14	Revisions	Issues	Date	<p>CONSULTANTS:</p> <p>EDCI ENGINEERS 601 W. RIVERSIDE - SUITE 600 SPOKANE, WASHINGTON 99201 PHONE: (509) 455-4448 • FAX: (509) 455-7492 WEBSITE: www.edci-engineers.com DCI JOB NO. 13041-0246</p>	<p>ARCHITECT/ENGINEERS:</p> <p> KMA ARCHITECTS 14410 SE PETROVITSKY ROAD SUITE 206 RENTON, WA 98058 425-291-7078</p>	<p>Drawing Title FIRST FLOOR OVERALL FRAMING PLAN</p> <p>Approved: Project Director</p>	<p>Project Title INTENSIVE OUTPATIENT MENTAL HEALTH AND EDUCATION BUILDING 4815 NORTH ASSEMBLY ST. SPOKANE, WASHINGTON 99205</p> <p>Location SPOKANE, WASHINGTON 99205</p> <table><tr><td>Issue Date</td><td>Checked</td><td>Drawn</td></tr><tr><td>11/02/2015</td><td>CJL</td><td>JWH</td></tr></table>	Issue Date	Checked	Drawn	11/02/2015	CJL	JWH	<table><tr><td>Project Number</td><td>668-313</td></tr><tr><td>Building Number</td><td>40A</td></tr><tr><td>Drawing Number</td><td>S111</td></tr><tr><td>Dwg. of</td><td></td></tr></table>	Project Number	668-313	Building Number	40A	Drawing Number	S111	Dwg. of		<p>Office of Construction and Facilities Management</p> <p> Department of Veterans Affairs</p>
	BID DOCUMENT	11/02/15																																																			
	100% CONSTRUCTION DOCUMENT	01/26/15																																																			
		12/30/14																																																			
	99% CONSTRUCTION DOCUMENT	12/11/14																																																			
	95% CONSTRUCTION DOCUMENT	10/13/14																																																			
	65% DESIGN DEVELOPMENT	06/27/14																																																			
	SCHEMATIC DESIGN	03/28/14																																																			
Revisions	Issues	Date																																																			
Issue Date	Checked	Drawn																																																			
11/02/2015	CJL	JWH																																																			
Project Number	668-313																																																				
Building Number	40A																																																				
Drawing Number	S111																																																				
Dwg. of																																																					

three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
two half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot



FLOOR FRAMING PLAN NOTES:

- STRUCTURAL GENERAL NOTES, DESIGN CRITERIA, ABBREVIATIONS AND LEGEND PER S001 THROUGH S003.
- VERIFY ALL DIMENSIONS AND ELEVATIONS WITH THE ARCHITECTURAL DRAWINGS. ALL EXISTING DIMENSIONS SHALL BE FIELD VERIFIED.
- ALL DUCTS, CHASES AND PIPES SHALL BE PER MECHANICAL, PLUMBING, ELECTRICAL AND SPRINKLER DRAWINGS.
- TOP OF SLAB ELEVATION (T/SLAB) = PER PLAN, UNO.
- T/STL INDICATES TOP OF STEEL (T/STL) ELEVATION (T/STL = B/DECK, UNO. STEEL JOISTS SHALL BE EQUALLY SPACED, TYPICAL UNO.
- FLOOR FRAMING SYSTEM SHALL BE OF COMPOSITE CONSTRUCTION. PROVIDE SHEAR STUDS 3/4"Ø, MIN x (DECK DEPTH + 1 1/2") LONG, SPACED PER 15/S403. NUMBERS INDICATED ON PLAN IN PARENTHESES ADJACENT TO STEEL BEAM CALLOUT INDICATE THE MINIMUM NUMBER OF STUDS REQUIRED. AT BEAMS WHERE STUD QUANTITY IS OMITTED, PROVIDE STUDS @ 12"OC MAX.
- CONCRETE OVER METAL DECK PER PLAN AND STRUCTURAL GENERAL NOTES. PROVIDE REINFORCING AS SHOWN ON PLAN AND DETAIL. DECK ATTACHMENT REQUIREMENTS PER STRUCTURAL GENERAL NOTES.
- TYPICAL FLOOR DECK OVERHANG TO BE 6" FROM BEAM CENTERLINE, UNO.
- STEEL STAIRS SHALL BE BIDDER-DESIGNED, UNO. APPLICABLE DESIGN REQUIREMENTS PER STRUCTURAL GENERAL NOTES.
- BRACED FRAME MEMBER SIZES PER ELEVATIONS.
- CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY SHORING.
- TYPICAL DETAILS PER:
 - 1/S401 BEAM FLANGE BRACE (BEAMS PERPENDICULAR)
 - 3/S401 BEAM TO HSS COLUMN CONNECTIONS
 - 6/S401 BEAM FLANGE BRACE (BEAMS PARALLEL)
 - 7/S401 TYPICAL EMBEDDED PLATE BOLTED BEAM CONNECTIONS
 - 8/S401 SKEWED BOLTED BEAM CONNECTION
 - 10/S401 DOUBLE SHEAR PLATE (SINGLE ROW) CONNECTIONS
 - 15/S401 TYPICAL CANTEVER OVER A BEAM
 - 1/S402 PLAN - TYPICAL DECK SUPPORT AT INTERIOR COLUMN
 - 10/S402 STEEL CONNECTION DETAILS
 - 12/S402 TYPICAL DECK OPENING REINFORCING DETAILS
 - 15/S402 TYPICAL DECK AT DISCONTINUITIES
 - 2/S403 TYPICAL REINFORCEMENT AT ROOF DRAINS
 - 7/S403 HOUSEKEEPING PAD ON CONCRETE OVER METAL DECKS
 - 9/S403 TYPICAL REINFORCED SLAB EDGE AT STEEL BEAM
 - 15/S403 TYPICAL COMPOSITE BEAM SHEAR STUD LAYOUT



KEY PLAN

NOT TO SCALE

SECOND FLOOR OVERALL FRAMING PLAN

SCALE: 1/8" = 1'-0"

BID DOCUMENT NOVEMBER 02, 2015

Revisions	Issues	Date
	BID DOCUMENT	11/02/15
	100% CONSTRUCTION DOCUMENT	01/26/15
		12/30/14
	99% CONSTRUCTION DOCUMENT	12/11/14
	95% CONSTRUCTION DOCUMENT	10/13/14
	65% DESIGN DEVELOPMENT	06/27/14
	SCHEMATIC DESIGN	03/28/14

CONSULTANTS:

EDCI
ENGINEERS
601 W. RIVERSIDE - SUITE 600
SPOKANE, WASHINGTON 99201
PHONE: (509) 455-4448 • FAX: (509) 455-7492
WEBSITE: www.edci-engineers.com
CIVIL / STRUCTURAL
DCI JOB NO. 13041-0246

ARCHITECT/ENGINEERS:



14410 SE PETROVITSKY ROAD SUITE 206
RENTON, WA 98058
425-291-7078

Drawing Title SECOND FLOOR OVERALL FRAMING PLAN

Approved: Project Director

Project Title
**INTENSIVE OUTPATIENT MENTAL HEALTH
AND EDUCATION BUILDING**
4815 NORTH ASSEMBLY ST.
SPOKANE, WASHINGTON 99205

Location
SPOKANE, WASHINGTON 99205

Issue Date
11/02/2015

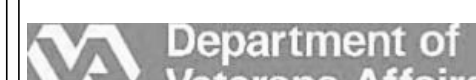
Checked
CJL

Drawn
JWH

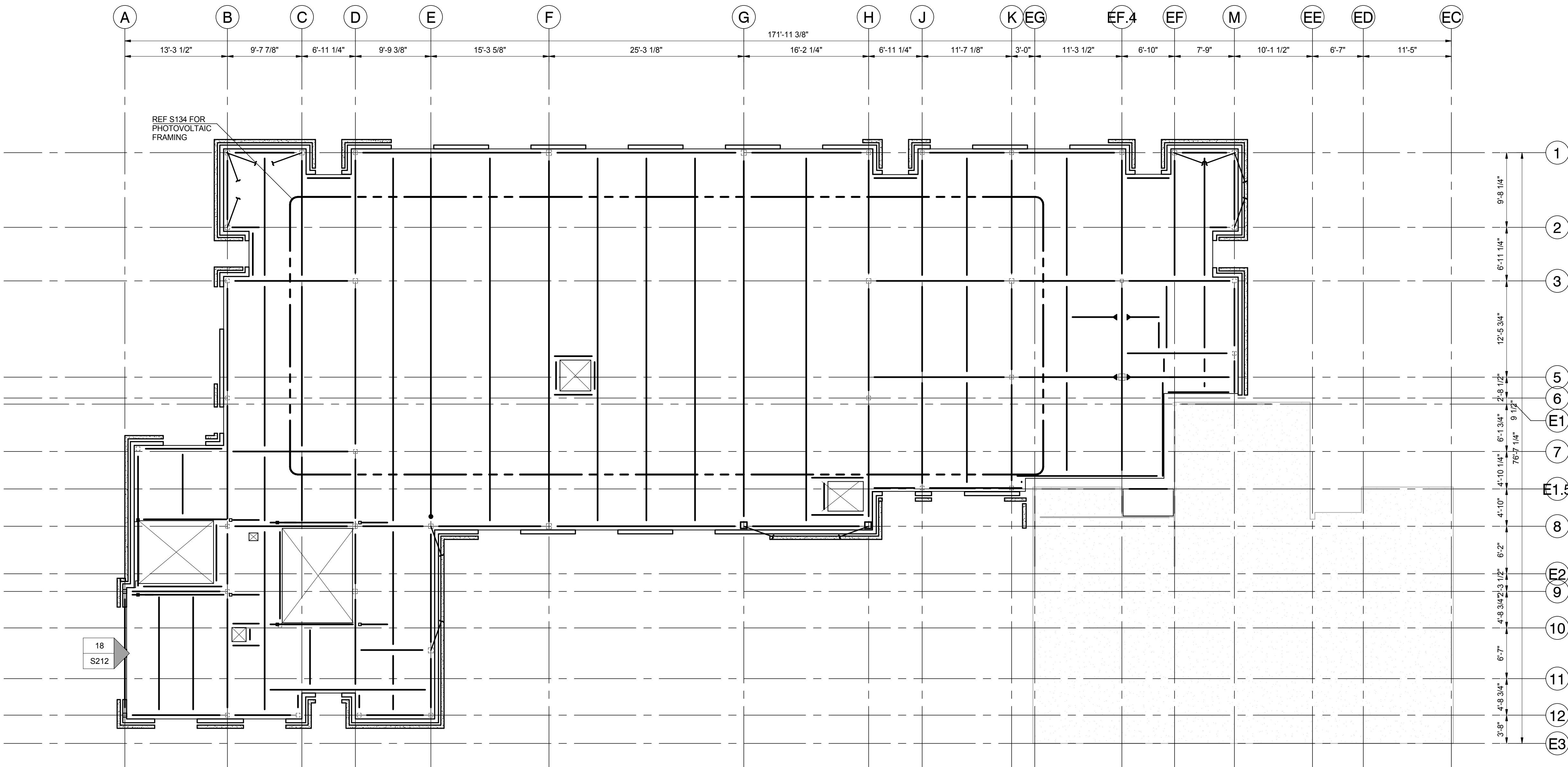
Dwg. of
S121

Project Number
668-313
Building Number
40A

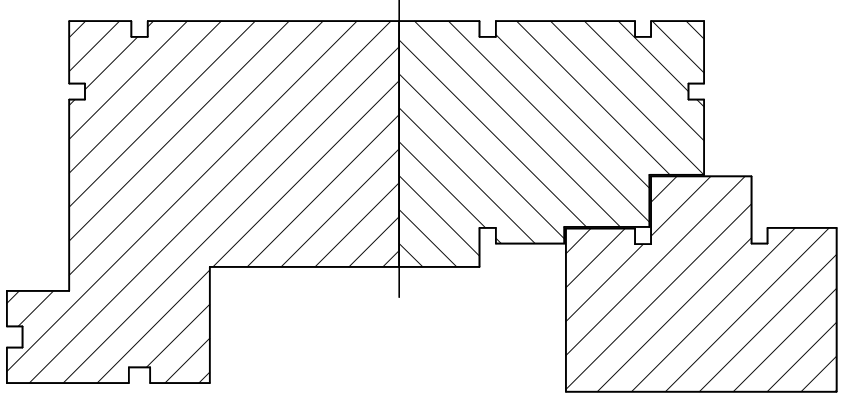
Office of
Construction
and Facilities
Management



Three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
two half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot



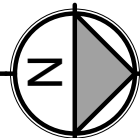
- ROOF FRAMING PLAN NOTES:**
- STRUCTURAL GENERAL NOTES, DESIGN CRITERIA, ABBREVIATIONS AND LEGEND PER S001 THROUGH S003.
 - VERIFY ALL DIMENSIONS AND ELEVATIONS WITH THE ARCHITECTURAL DRAWINGS. ALL EXISTING DIMENSIONS SHALL BE FIELD VERIFIED.
 - ALL DUCTS, CHASES AND PIPES SHALL BE PER MECHANICAL, PLUMBING, ELECTRICAL AND SPRINKLER DRAWINGS.
 - T/STL INDICATES TOP OF STEEL (T/STL) ELEVATION (T/STL = B/DECK, UNO. STEEL JOISTS SHALL BE EQUALLY SPACED, TYPICAL UNO.
 - METAL DECK PER PLAN AND STRUCTURAL GENERAL NOTES. DECK ATTACHMENT REQUIREMENTS PER STRUCTURAL GENERAL NOTES.
 - TYPICAL ROOF DECK OVERHANG TO BE 6" FROM CENTERLINE OF BEAM, UNO.
 - STEEL STAIRS SHALL BE BIDDER-DESIGNED, UNO. APPLICABLE DESIGN REQUIREMENTS PER STRUCTURAL GENERAL NOTES.
 - BRACED FRAME MEMBER SIZES PER ELEVATIONS.
 - CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY SHORING.
 - TYPICAL DETAILS PER:
 - 1/S401 BEAM FLANGE BRACE (BEAMS PERPENDICULAR)
 - 3/S401 BEAM TO HSS COLUMN CONNECTIONS
 - 6/S401 BEAM FLANGE BRACE (BEAMS PARALLEL)
 - 7/S401 TYPICAL EMBEDDED PLATE BOLTED BEAM CONNECTIONS
 - 8/S401 SKEWED BOLTED BEAM CONNECTION
 - 10/S401 DOUBLE SHEAR PLATE (SINGLE ROW) CONNECTIONS
 - 15/S401 TYPICAL CANTILEVER OVER A BEAM
 - 1/S402 PLAN - TYPICAL DECK SUPPORT AT INTERIOR COLUMN
 - 10/S402 STEEL CONNECTION DETAILS
 - 12/S402 TYPICAL DECK OPENING REINFORCING DETAILS
 - 15/S402 TYPICAL DECK AT DISCONTINUITIES
 - 2/S403 TYPICAL REINFORCEMENT AT ROOF DRAINS
 - 7/S403 HOUSEKEEPING PAD ON CONCRETE OVER METAL DECKS
 - 9/S403 TYPICAL REINFORCED SLAB EDGE AT STEEL BEAM
 - 15/S403 TYPICAL COMPOSITE BEAM SHEAR STUD LAYOUT



KEY PLAN
NOT TO SCALE

NOTE: THIS SLAB IS DESIGNED AS A FUTURE FLOOR W/ SAME LOADING AS FLOORS BELOW.

ROOF OVERALL FRAMING PLAN
SCALE: 1/8" = 1'-0"



BID DOCUMENT
NOVEMBER 02, 2015

	BID DOCUMENT	11/02/15
	100% CONSTRUCTION DOCUMENT	01/26/15
		12/30/14
	99% CONSTRUCTION DOCUMENT	12/11/14
	95% CONSTRUCTION DOCUMENT	10/13/14
	65% DESIGN DEVELOPMENT	06/27/14
	SCHEMATIC DESIGN	03/28/14
Revisions	Issues	Date

CONSULTANTS:

EDCI
ENGINEERS
601 W. RIVERSIDE - SUITE 600
SPOKANE, WASHINGTON 99201
PHONE: (509) 455-4448 • FAX: (509) 455-7492
WEBSITE: www.edci-engineers.com
DCI JOB NO. 13041-0246



ARCHITECT/ENGINEERS:

KMA
ARCHITECTS
14410 SE PETROVITSKY ROAD SUITE 206
RENTON, WA 98058
425-291-7078

Drawing Title
ROOF OVERALL FRAMING PLAN

Approved: Project Director

Project Title
**INTENSIVE OUTPATIENT MENTAL HEALTH
AND EDUCATION BUILDING**
4815 NORTH ASSEMBLY ST.
SPOKANE, WASHINGTON 99205

Location
SPOKANE, WASHINGTON 99205
Issue Date
11/02/2015

Checked
CJL

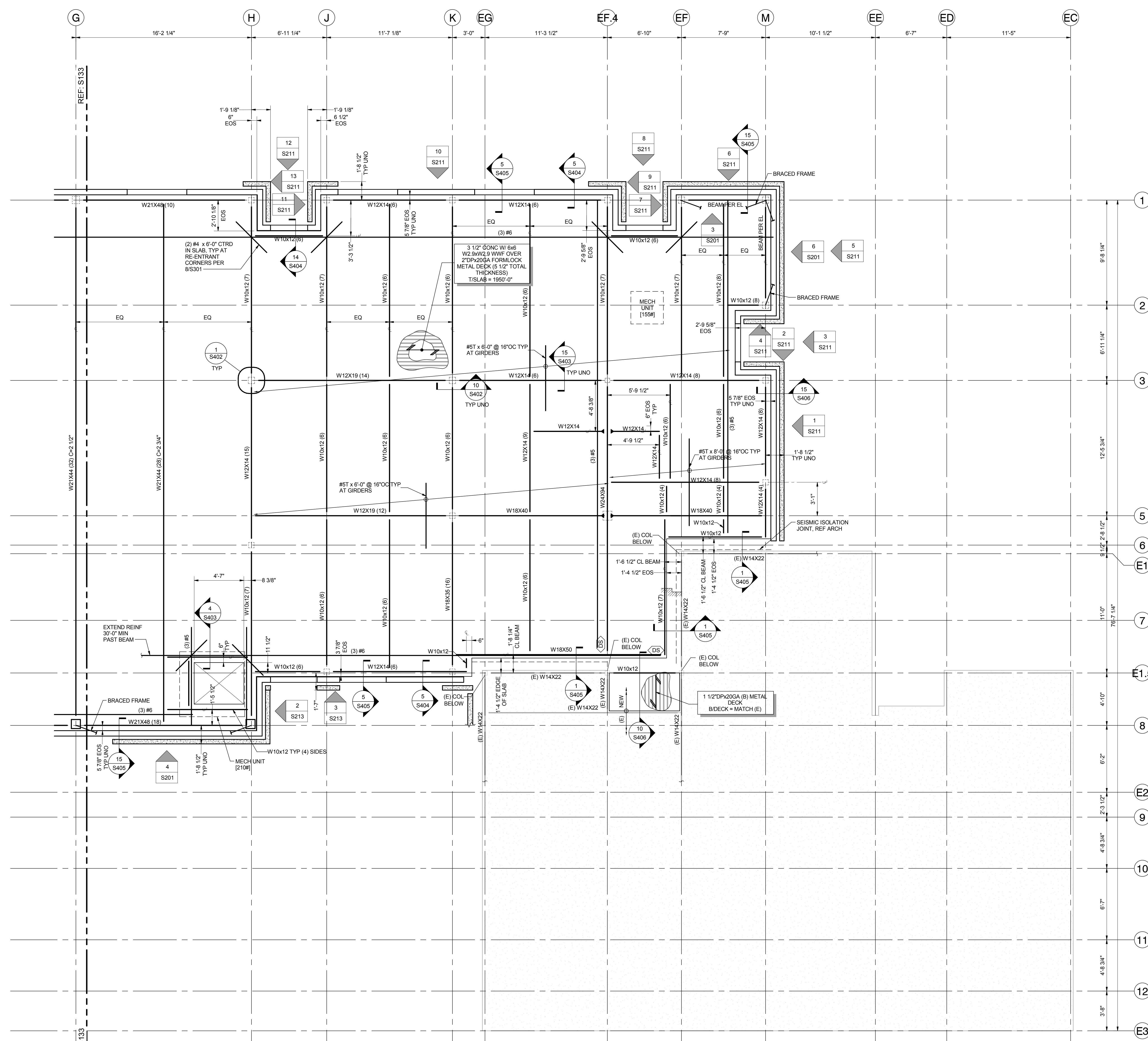
Drawn
JWH




Project Number
668-313
Building Number
40A
Drawing Number
S131
Dwg. of

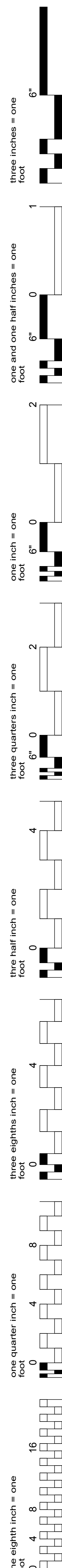
Office of
Construction
and Facilities
Management



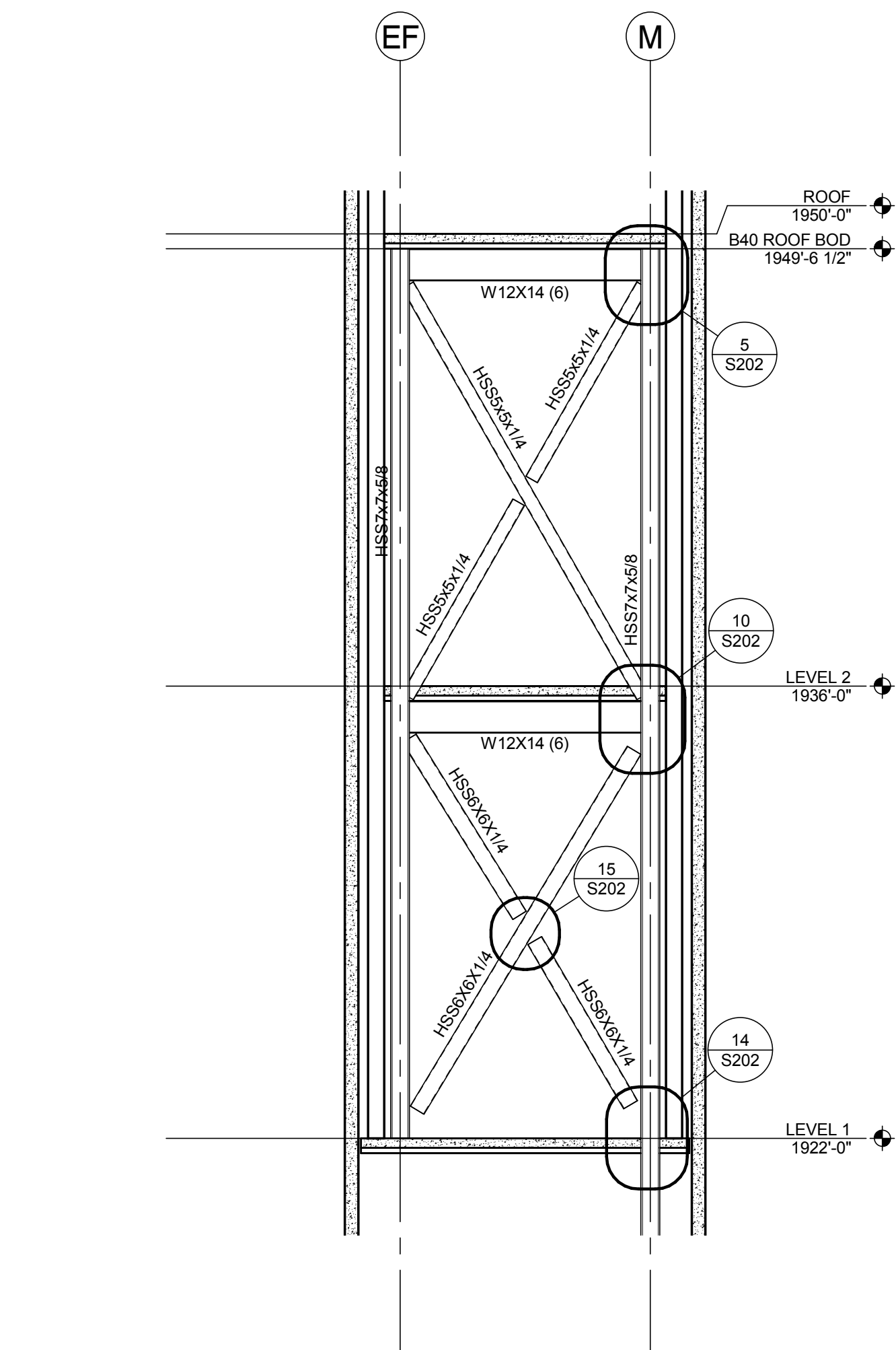
Three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot



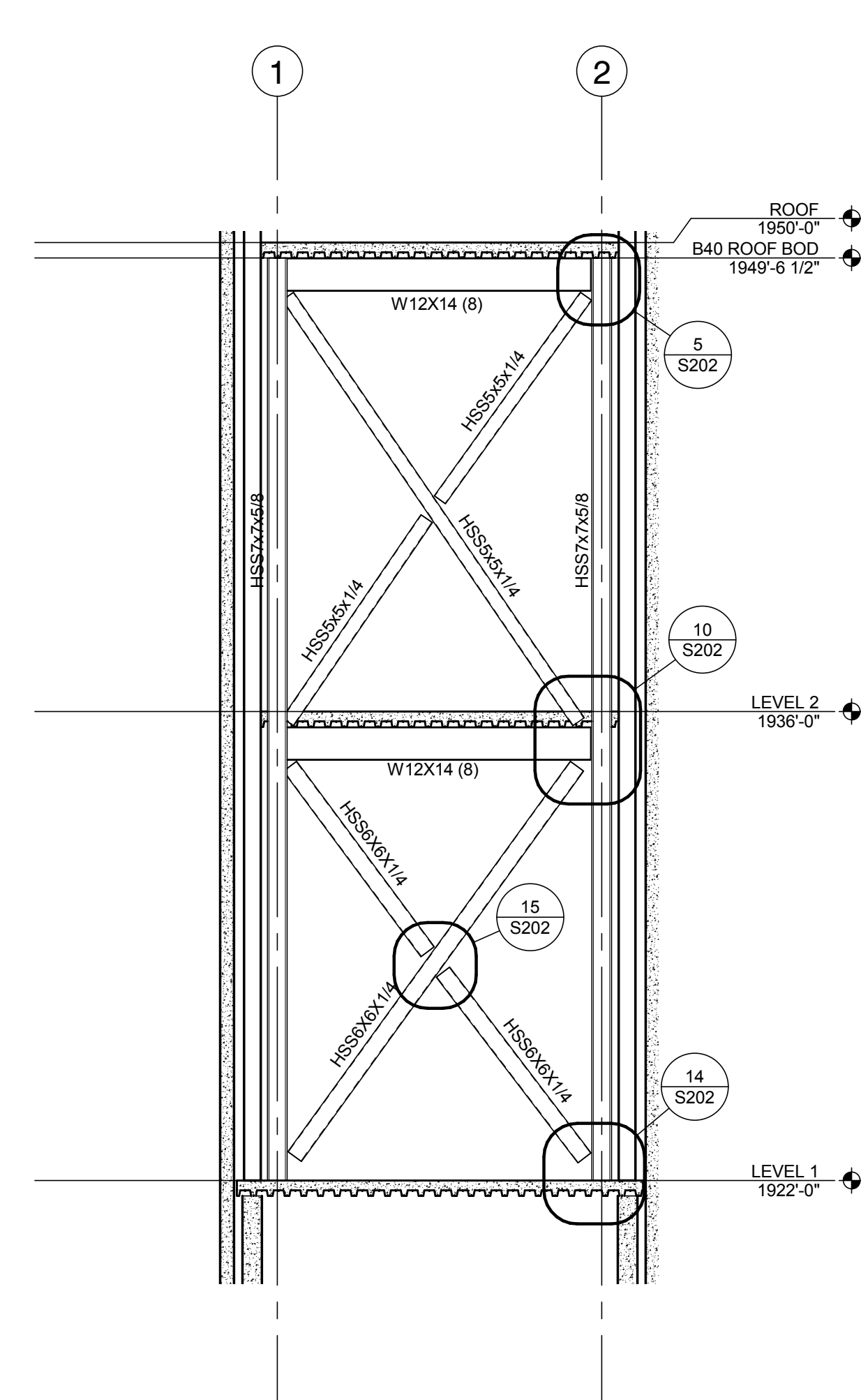
CONSULTANTS:				ARCHITECT/ENGINEERS:		Drawing Title PARTIAL FRAMING PLANS		Project Title INTENSIVE OUTPATIENT MENTAL HEALTH AND EDUCATION BUILDING		Project Number 668-313		Office of Construction and Facilities Management	
 <p>DCI ENGINEERS & ARCHITECTS 601 W. RIVERSIDE - SUITE 600 SPOKANE, WASHINGTON 99201 PHONE: (509) 655-4444 - FAX: (509) 655-7500 WEBSITE: www.dci-engineers.com DCI JOB NO. 13041-0246</p>				 <p>KMA INC. ARCHITECTS 14410 SE PETROVITSKY ROAD SUITE 206 RENTON, WA 98058 425-291-7078</p>		Approved: Project Director		Location SPOKANE, WASHINGTON 99205		Building Number 40A			
								Issue Date 11/02/2015		Checked CJL		Drawn JWH	



6 BRACED FRAME ELEVATION AT GRID M
SCALE: 1/4" = 1'-0"



3 BRACED FRAME ELEVATION AT GRID 1
SCALE: 1/4" = 1'-0"

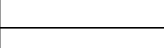



5 BRACED FRAME ELEVATION AT GRID B
SCALE: 1/4" = 1'-0"



6 BRACED FRAME ELEVATION AT GRID M
SCALE: 1/4" = 1'-0"

ARCHITECT/ENGINEERS:

ARCHITECTS

14410 SE PETROVITSKY ROAD SUITE 206
RENTON, WA 98058
425-291-7078



Drawing Title

BRACED FRAME ELEVATIONS

Approved: Project Director

Location SPOKANE, WASHINGTON 99205	
Issue Date 11/02/2015	Checked CJL

Office of
Construction
and Facilities
Management

 Department of
Veterans Affairs

**BID DOCUMENT
NOVEMBER 02, 2015**



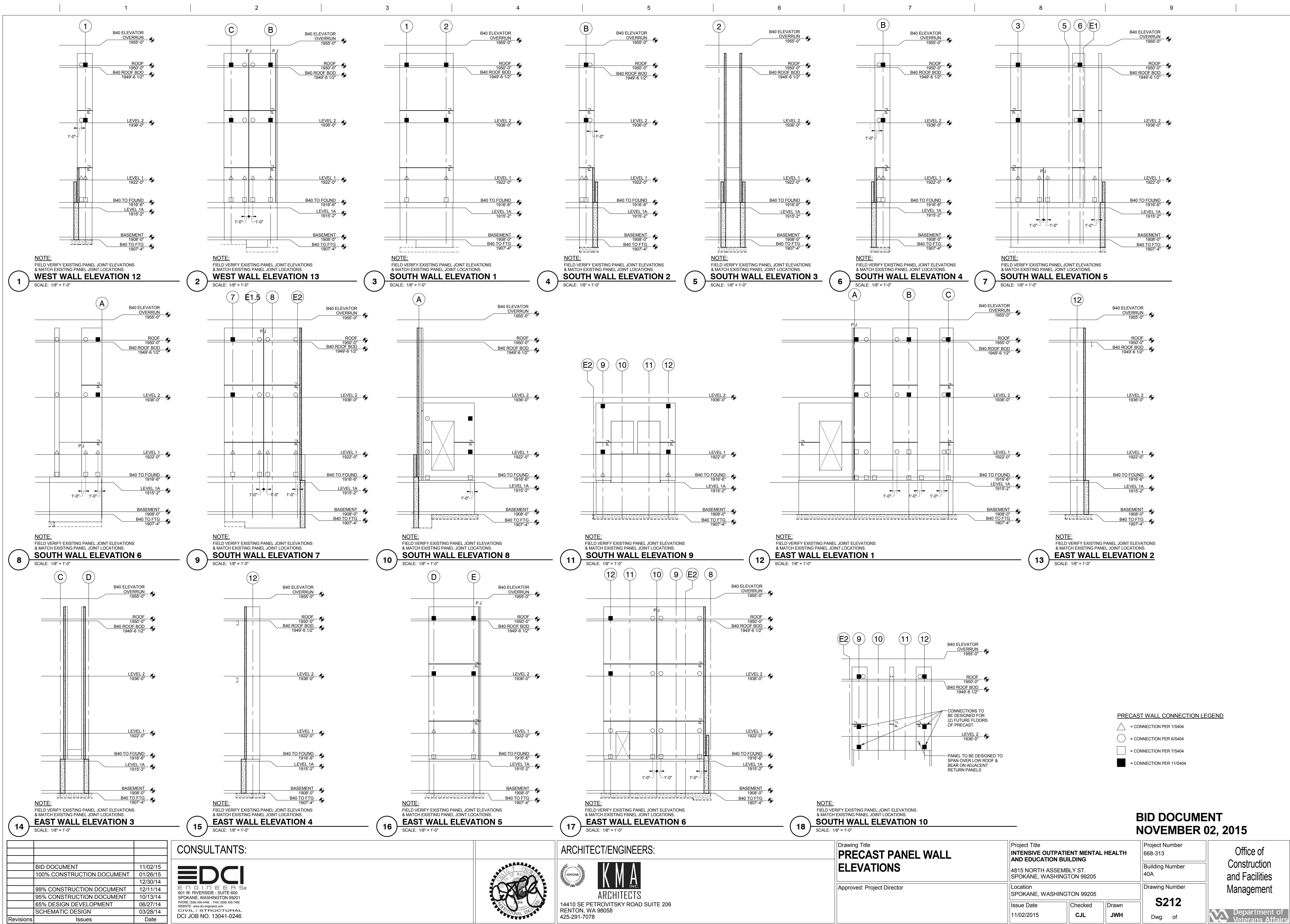
BRACED FRAME DETAIL



BRACE FOOTING DETAIL



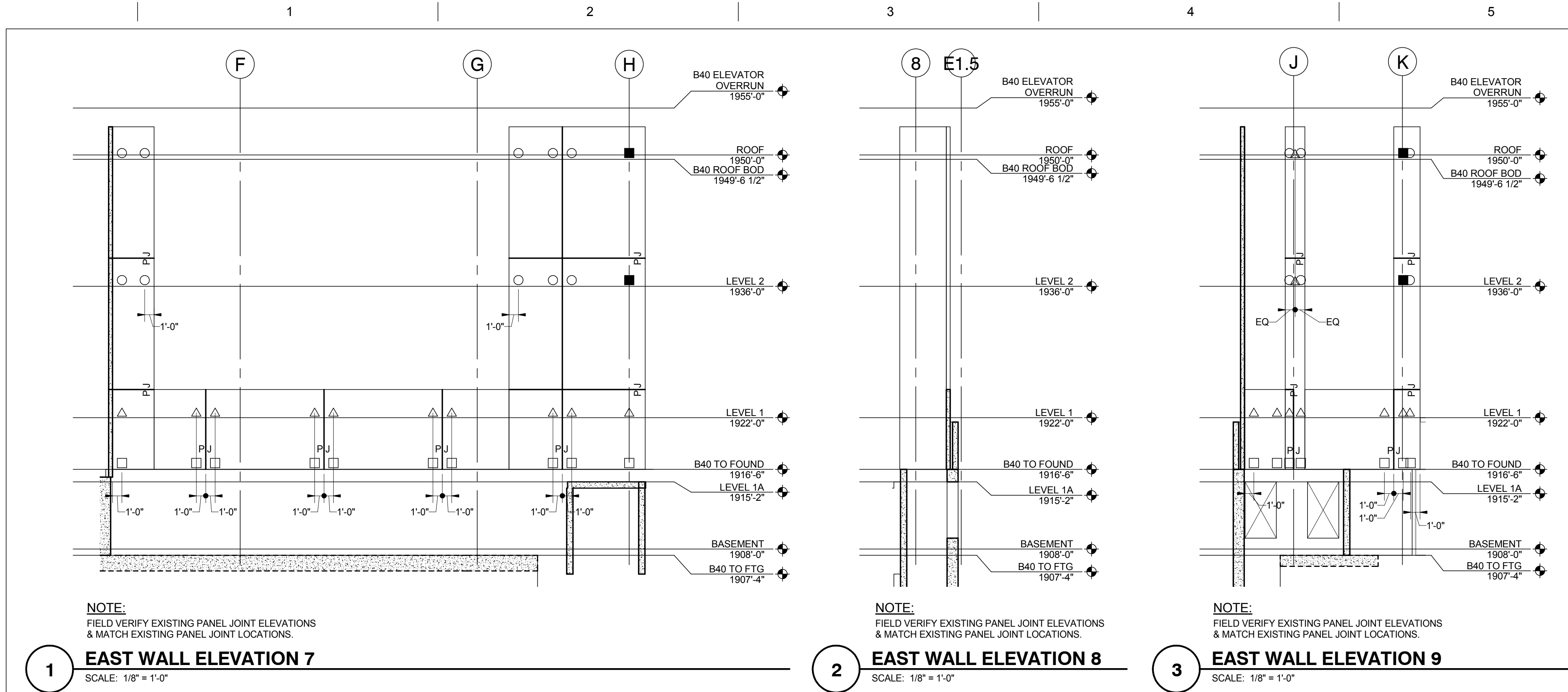
Department of
Veterans Affairs

 Department of
Veterans Affairs

1
2
3
4
5
6
7
8
9

A
B
C
D
E
F

three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot



	BID DOCUMENT	11/02/15
	100% CONSTRUCTION DOCUMENT	01/26/15
		12/30/14
	99% CONSTRUCTION DOCUMENT	12/11/14
	95% CONSTRUCTION DOCUMENT	10/13/14
	65% DESIGN DEVELOPMENT	06/27/14
	SCHEMATIC DESIGN	03/28/14
Revisions	Issues	Date

CONSULTANTS:

EDCI
ENGINEERS
601 W. RIVERSIDE - SUITE 600
SPOKANE, WASHINGTON 99201
PHONE: (509) 455-4448 - FAX: (509) 455-7492
WEBSITE: www.edci-engineers.com
CIVIL / STRUCTURAL
DCI JOB NO. 13041-0246

ARCHITECT/ENGINEERS:

KMA
ARCHITECTS
14410 SE PETROVITSKY ROAD SUITE 206
RENTON, WA 98058
425-291-7078

Drawing Title
PRECAST PANEL WALL ELEVATIONS

Project Title
INTENSIVE OUTPATIENT MENTAL HEALTH AND EDUCATION BUILDING
4815 NORTH ASSEMBLY ST.
SPOKANE, WASHINGTON 99205

Location
SPOKANE, WASHINGTON 99205

Issue Date
11/02/2015

Checked
CJL

Drawn
JWH

Project Number
668-313

Building Number
40A

Drawing Number
S213
Dwg. of

Office of
Construction
and Facilities
Management

Department of
Veterans Affairs

one quarter inch = one foot

one eighth inch = one foot

three eighths inch = one foot

three quarters inch = one foot

one inch = one foot

one and one half inches = one foot

three inches = one foot

0 4 8 16

0 4 8

0 4 8

0 4 8

0 4 8

0 4 8

0 4 8

	BID DOCUMENT	11/02/15
	100% CONSTRUCTION DOCUMENT	01/26/15
		12/30/14
	99% CONSTRUCTION DOCUMENT	12/11/14
	95% CONSTRUCTION DOCUMENT	10/13/14
	65% DESIGN DEVELOPMENT	06/27/14
	SCHEMATIC DESIGN	03/28/14
Revisions	Issues	Date

CONSULTANTS:

EDCI

ENGINEERS

601 W. RIVERSIDE - SUITE 600
SPOKANE, WASHINGTON 99201
PHONE: (509) 455-4448 - FAX: (509) 455-7462
WEBSITE: www.edcengineers.com
CIVIL / STRUCTURAL
DCI JOB NO. 13041-0246



ARCHITECT/ENGINEERS:

SPADSS

KMA

ARCHITECTS

14410 SE PETROVITSKY ROAD SUITE 206
RENTON, WA 98058
425-291-7078

Drawing Title
STAIR FRAMING PLANS

Approved: Project Director

Project Title
**INTENSIVE OUTPATIENT MENTAL HEALTH
AND EDUCATION BUILDING**
4815 NORTH ASSEMBLY ST.
SPOKANE, WASHINGTON 99205

Location
SPOKANE, WASHINGTON 99205

Issue Date
11/02/2015

Checked
CJL

Drawn
JWH

Project Number
668-313
Building Number
40A

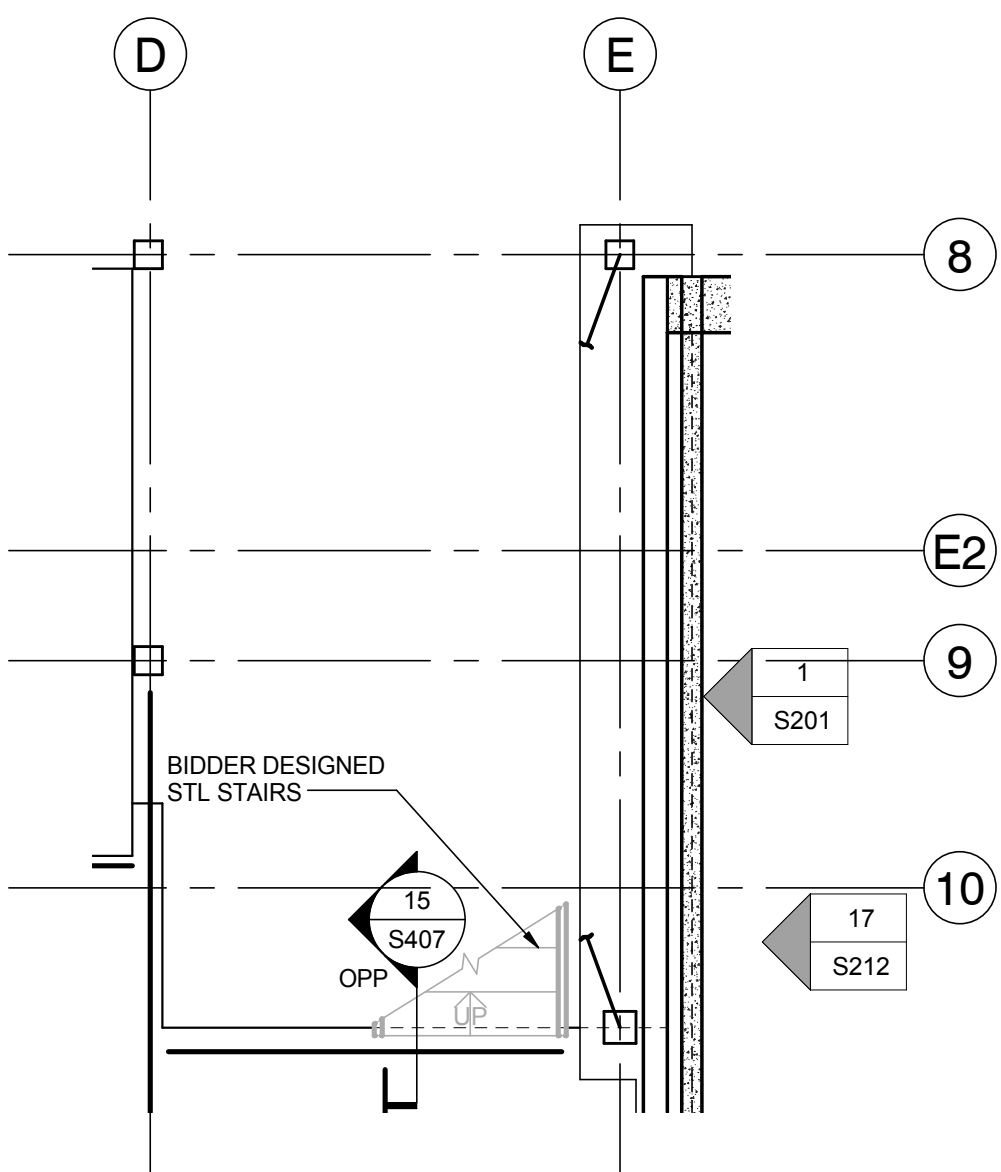
Drawing Number
S221

Dwg. of

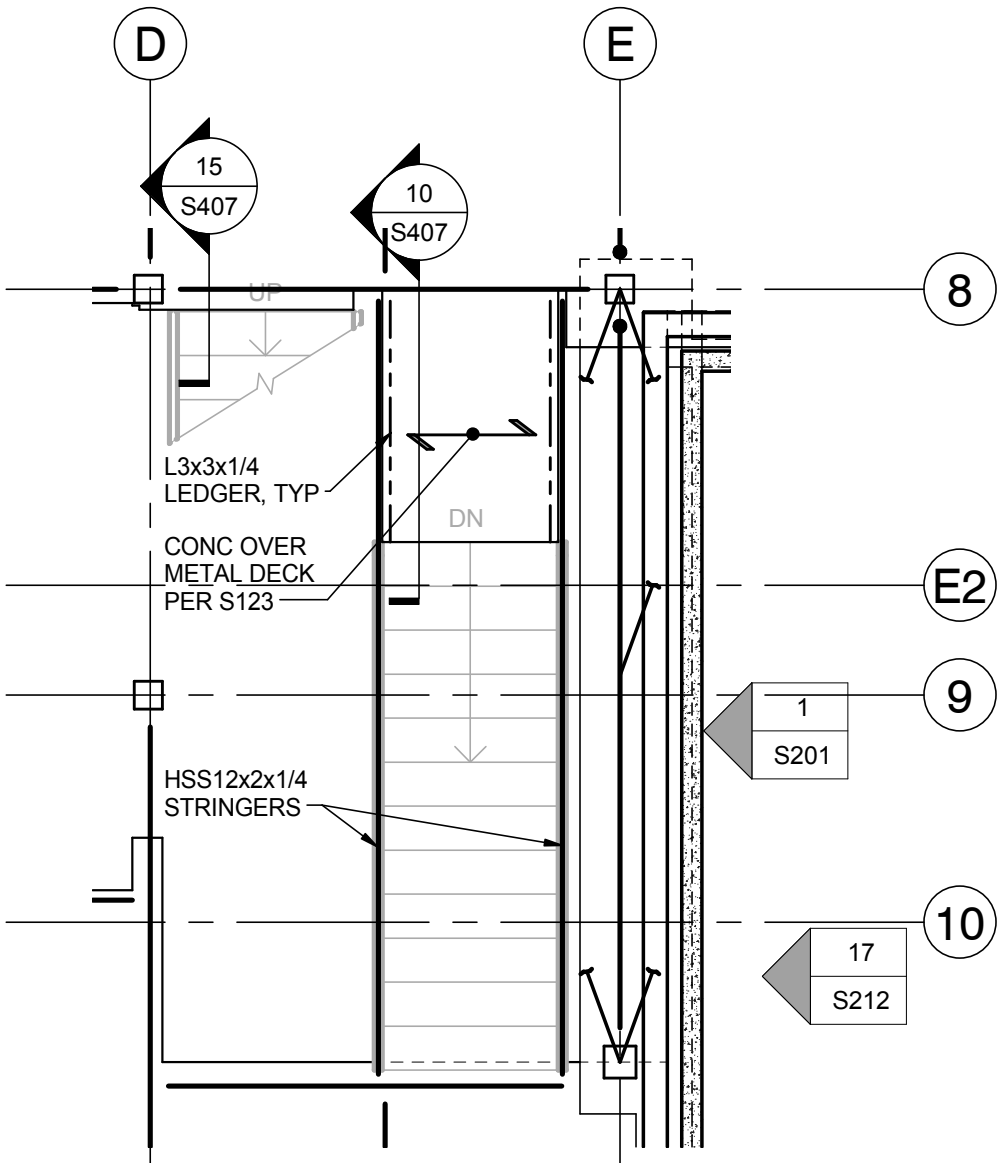
Office of
Construction
and Facilities
Management



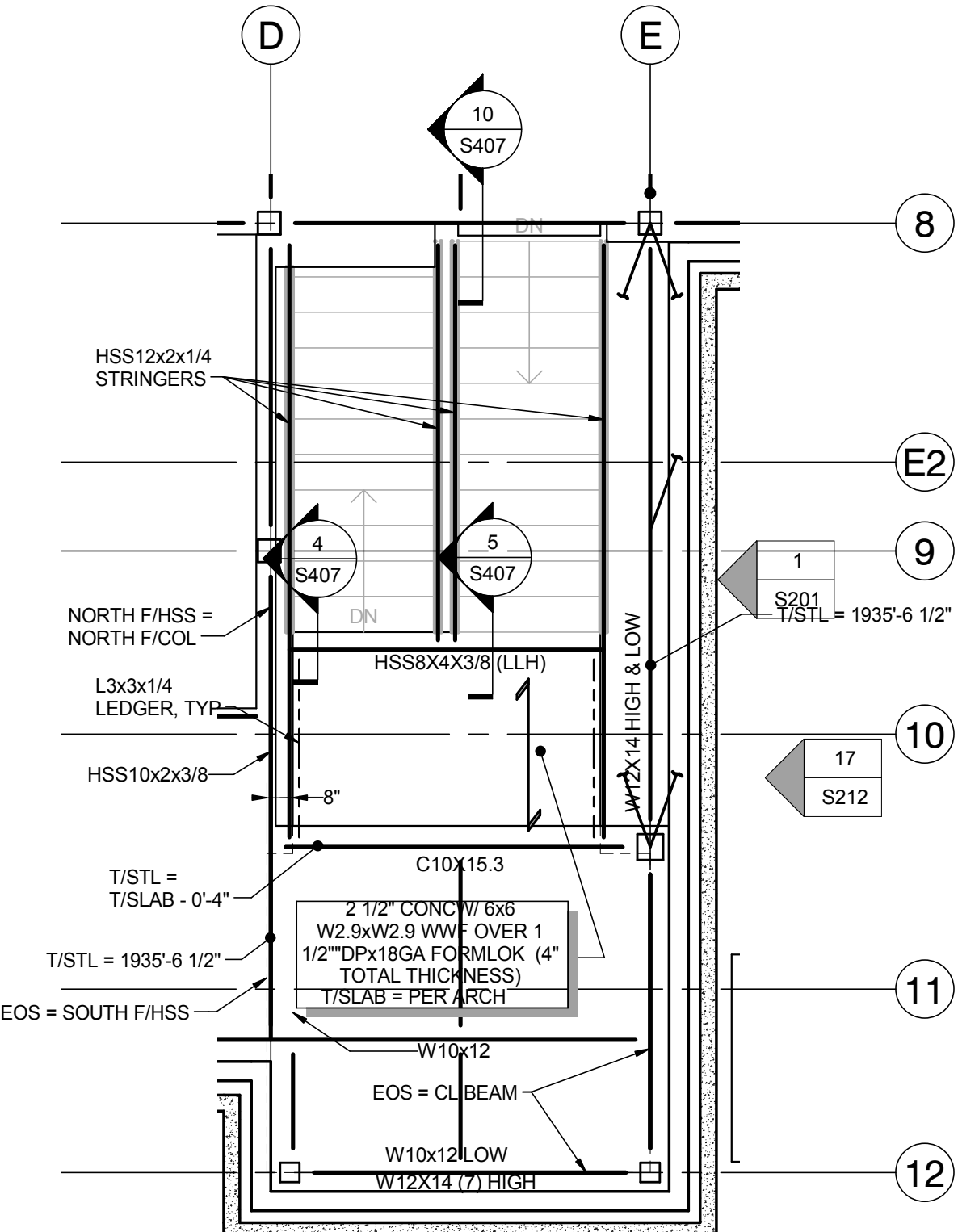
5 LEVEL 1A STAIR FRAMING PLAN
SCALE: 1/4" = 1'-0"

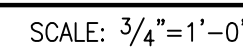
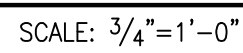
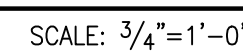
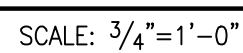
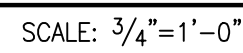
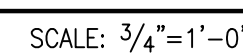
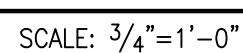
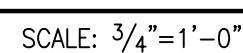
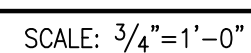


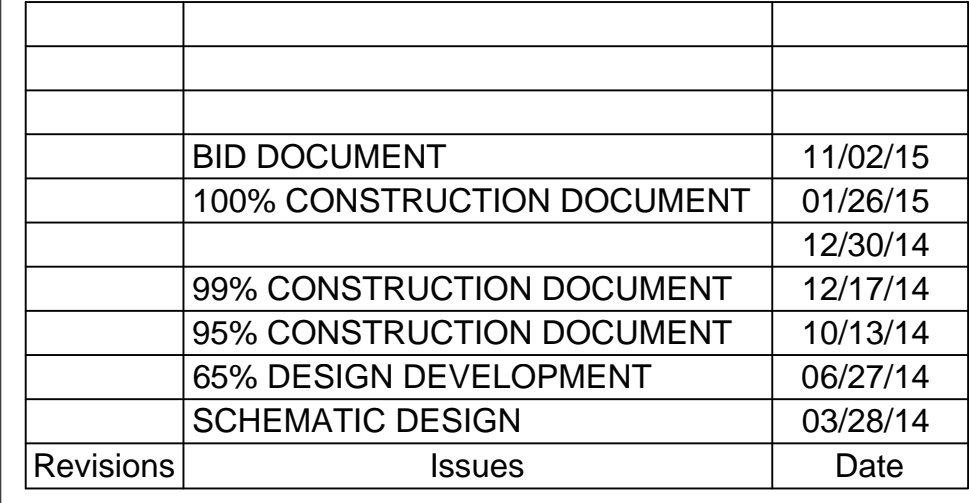
10 FIRST FLOOR STAIR FRAMING PLAN
SCALE: 1/4" = 1'-0"



15 SECOND FLOOR AND MID-LANDING STAIR FRAMING PLAN
SCALE: 1/4" = 1'-0"

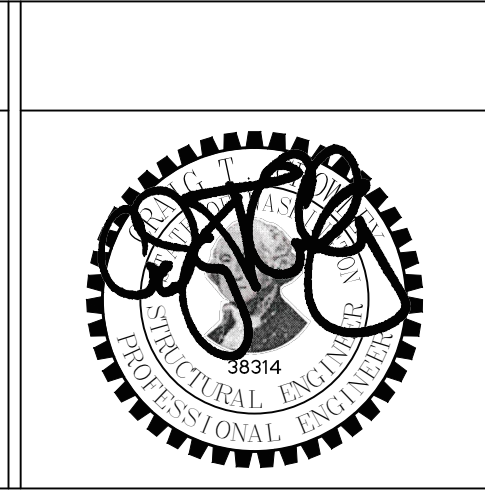


 Department of
Veterans Affairs





CONSULTANTS:

EDCI
ENGINEERS[®]
601 W. RIVERSIDE - SUITE 600
SPOKANE, WASHINGTON 99201
PHONE: (509) 455-4444 • FAX: (509) 455-7662
WEBSITE: www.edi-engineers.com
CIVIL / STRUCTURAL
DCI JOB NO. 13041-0246

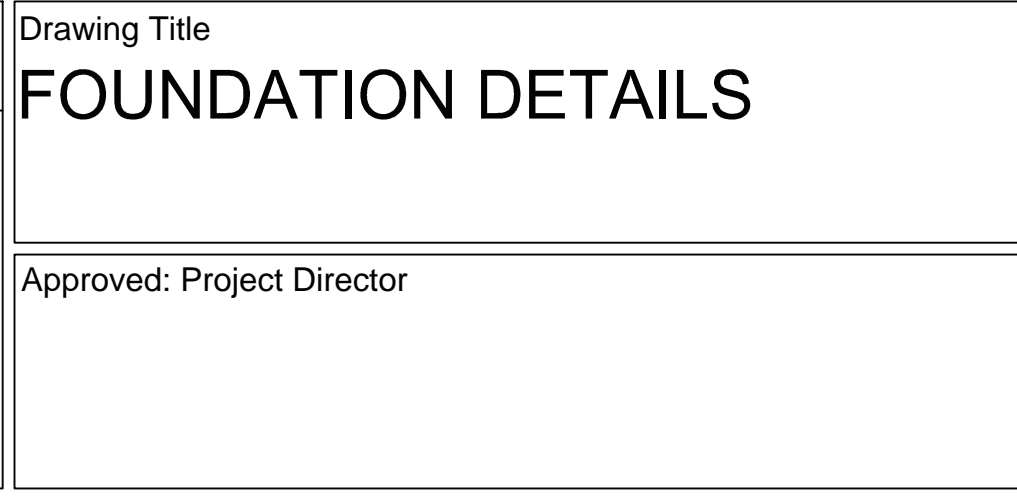


ARCHITECT/ENGINEERS:



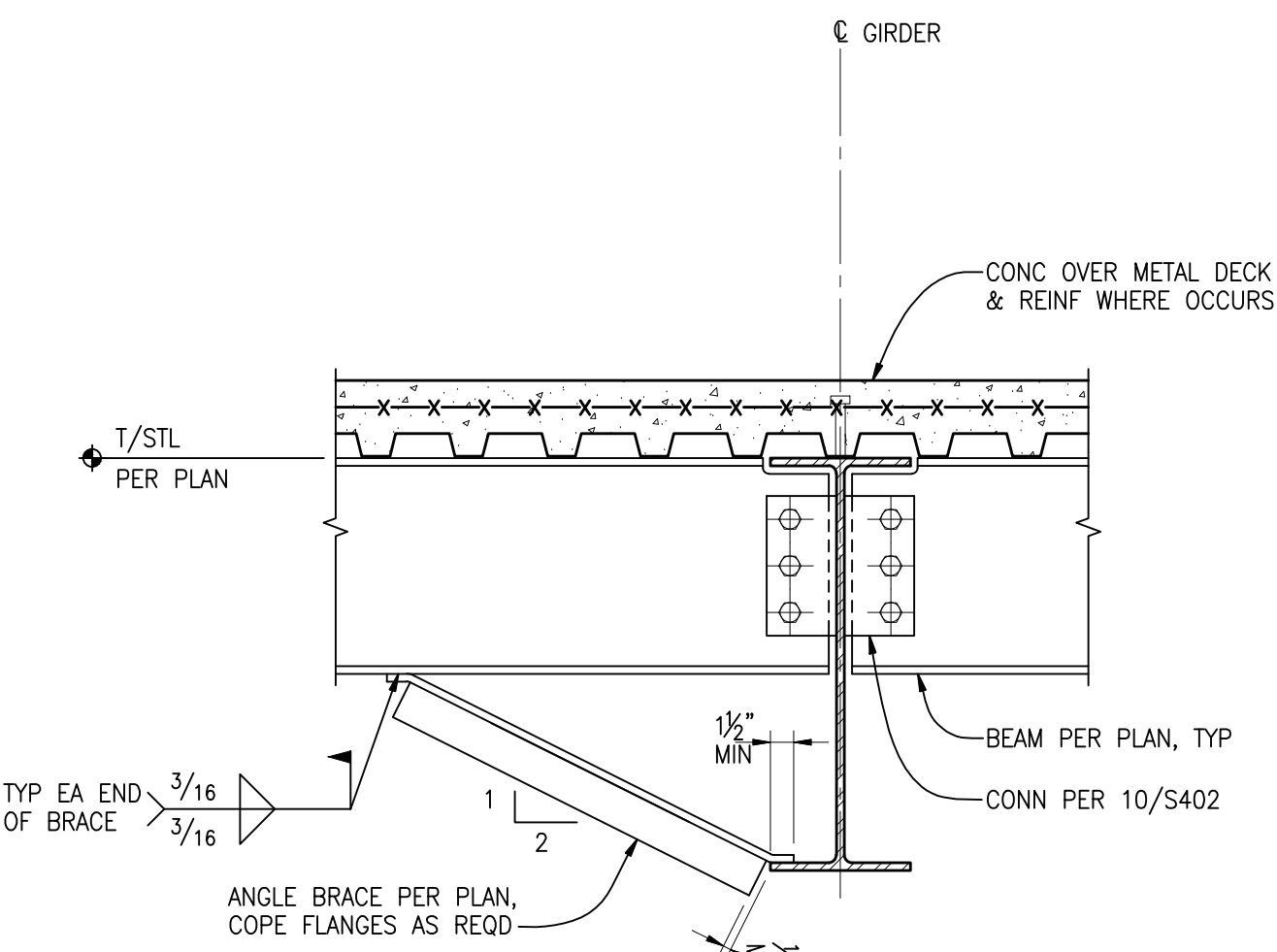
ARCHITECTS

14410 SE PETROVITSKY ROAD SUITE 206
RENTON, WA 98058
425-291-7078



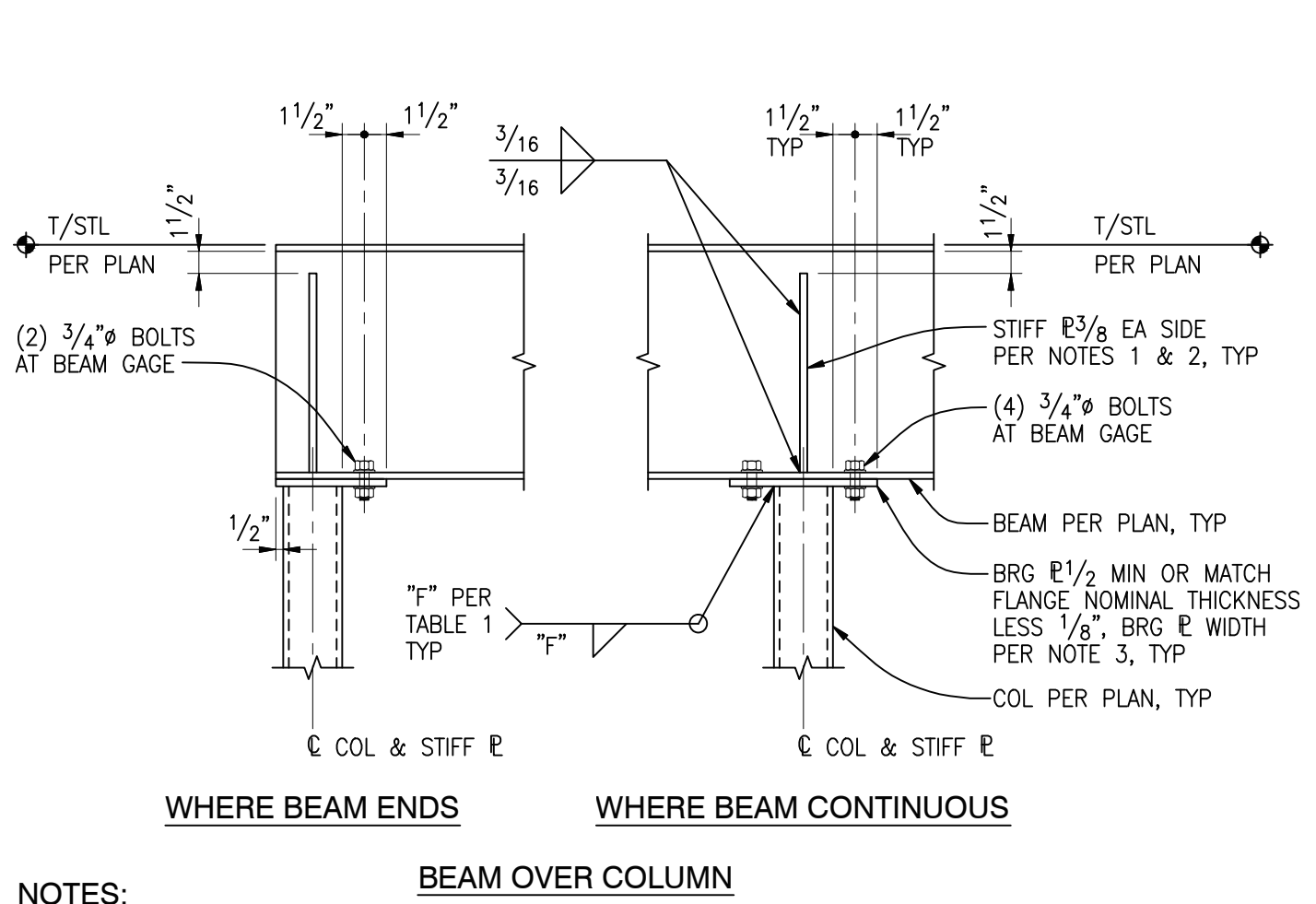
Project Title		
INTENSIVE OUTPATIENT MENTAL HEALTH AND EDUCATION BUILDING		
4815 NORTH ASSEMBLY ST. SPOKANE, WASHINGTON 99205		
Location		
SPOKANE, WASHINGTON 99205		
Issue Date	Checked	Drawn
11/02/2015	CL	JWH

Project Number 668-313	Office of Construction and Facilities Management 
Building Number 40A	
Drawing Number S304 Dwg. of	



NOTE:
BRACE SIZE AND LOCATION PER PLAN.

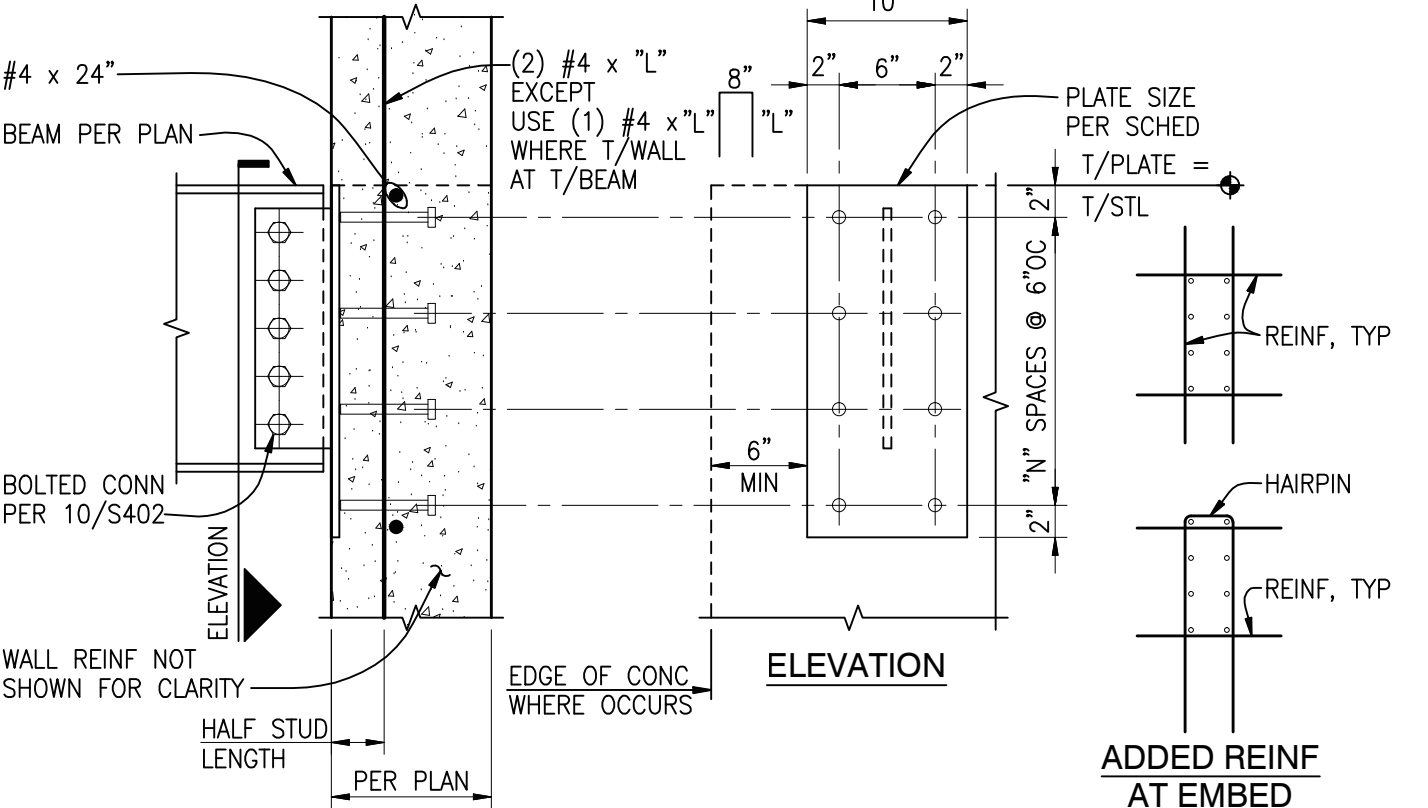
BEAM FLANGE BRACE (BEAMS PERPENDICULAR)
05501 SCALE: 1"=1'-0"



NOTES:
1. CHAMFER CORNERS AS REQUIRED AT BEAM "K" REGION.
2. AT INTERSECTING BEAMS USE FULL DEPTH SHEAR TAB PER 10/S402.
3. BEARING PLATE WIDTH = [BEAM WIDTH OR IF COLUMN IS WIDER THAN BEAM, COLUMN WIDTH + 1"] MINIMUM.

BEAM TO HSS COLUMN CONNECTIONS
05050

BEAM SIZE	PLATE SIZE (TYPICAL) (A36)	REBAR L	HAIRPIN L	NUMBER OF SPACES "N"	NUMBER OF WHS ANCHORS REQUIRED	CONNECTION CAPACITY (ASD)	MIN WALL THICKNESS
W8, W10	E ³ /6x10x0'-10"	24"	18"	1	(4) 1/2" x 5"	13k	8"
W12, W14	E ¹ /2x16x0'-10"	36"	24"	2	(6) 1/2" x 5"	21k	8"
W16, W18	E ¹ /2x22x0'-10"	48"	30"	3	(8) 5/8" x 6"	50k	8"
W21, W24	E ⁵ /8x28x0'-10"	48"	36"	4	(10) 5/8" x 6"	59k	10"
W27, W30	E ⁵ /8x34x0'-10"	60"	48"	5	(12) 3/4" x 8"	75k	10"

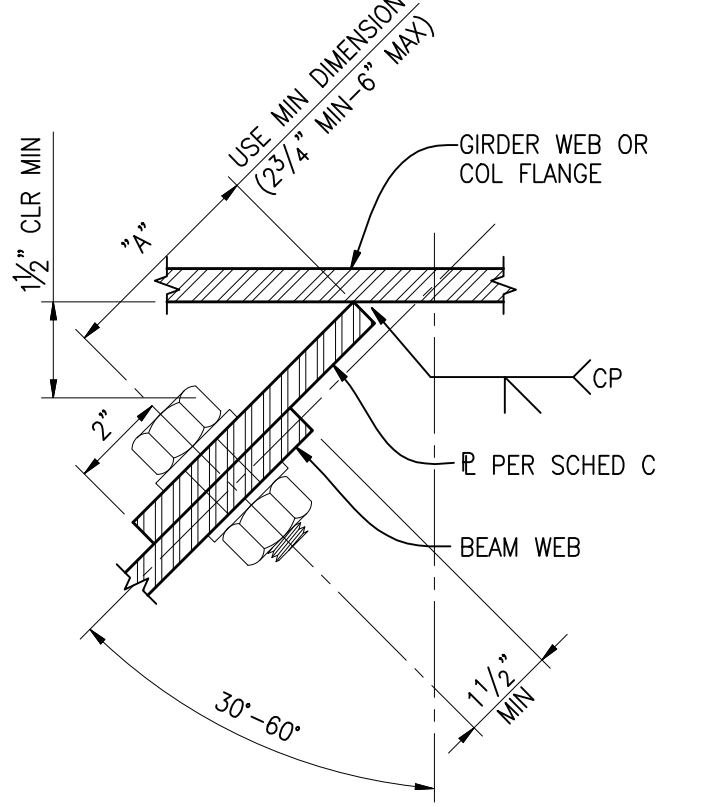


TYPICAL EMBED PLATE BOLTED BEAM CONNECTION
05208 SCALE: 1"=1'-0"

BEAM SIZE	BOLTS REQUIRED	MINIMUM PLATE THICKNESS	CONNECTION CAPACITY (SINGLE SHEAR)
W8	(2) 3/4"	3/8	8.2k
W10	(2) 3/4"	3/8	8.2k
W12	(3) 3/4"	3/8	16.3k
W14	(3) 3/4"	3/8	16.3k
W16	(4) 3/4"	3/8	26.1k
W18	(5) 3/4"	3/8	36.3k
W21	(6) 3/4"	7/16	46.3k
W24	(7) 3/4"	7/16	56.4k
W27	(8) 3/4"	1/2	66.3k
W30	(8) 3/4"	1/2	66.3k

NOTES:
1. BEAM AND COLUMN SIZE PER PLAN.
2. PROVIDE STANDARD BOLT HOLES PER AISC, IN BEAM AND HORIZONTAL SHORT SLOTTED HOLE (SSL) IN CONNECTION PLATE.
3. CAPACITIES BASED ON AISC-9TH EDITION-A325N BOLTS TABLES XA THRU XF.
4. FOR CONNECTIONS WITH SKEWED ANGLES LESS THAN 30° OR IF DIMENSION "A" IS 3" OR LESS, USE STANDARD BOLTED CONNECTION SCHEDULE C.

SKEWED BOLTED BEAM CONNECTION
05206



SKEWED BOLTED BEAM CONNECTION
05206 SCALE: NONE

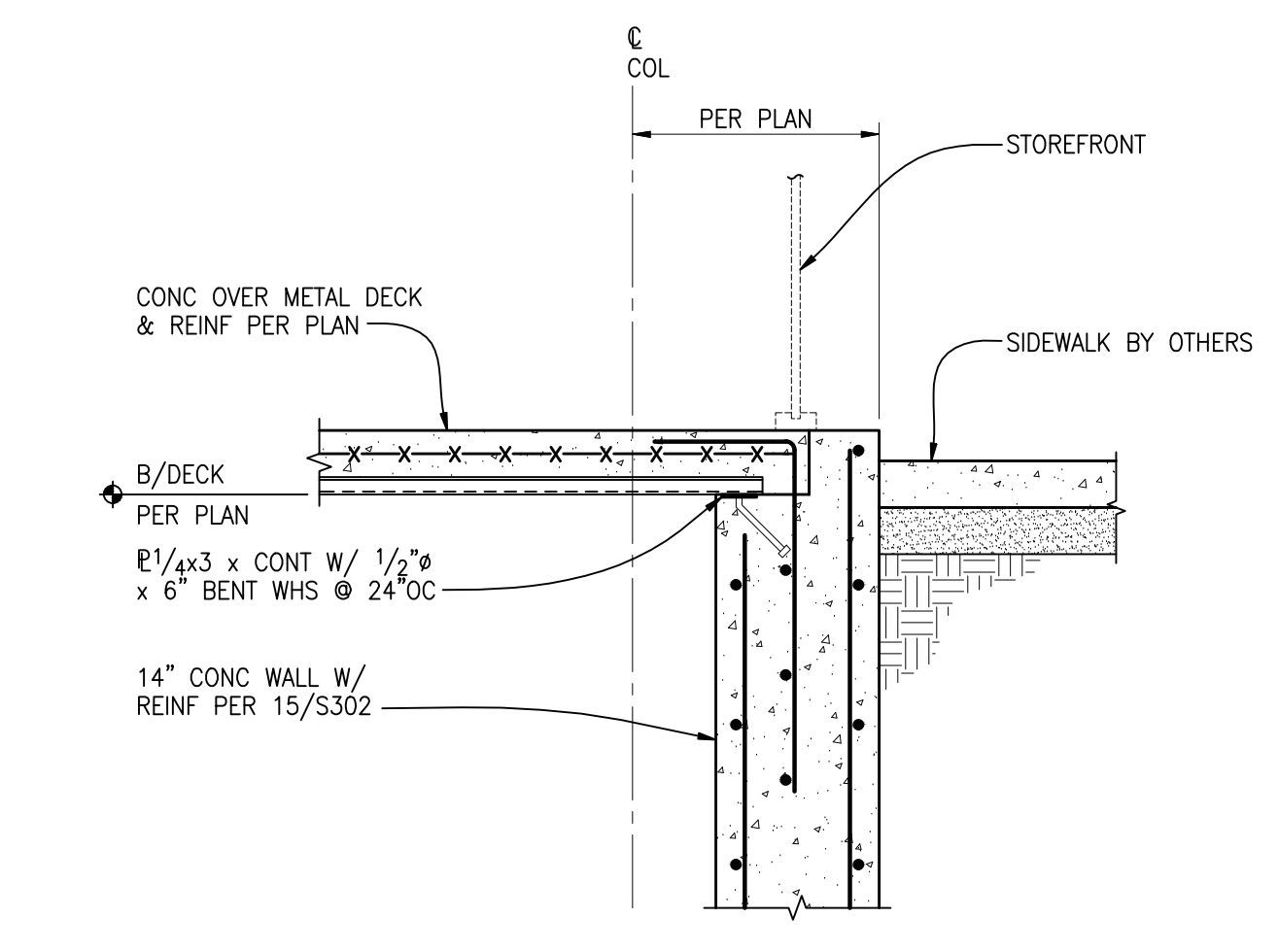
BEAM SIZE	"N" BOLTS REQUIRED	MIN SHEAR PLATE OR WT STEM THICKNESS	MIN HSS COLUMN WALL THICKNESS (2)	WELD SIZE t (4)	WELD DEPTH OF GROOVE S (3)	UNCOPED BEAM CONNECTION CAPACITY - ASD (1) (KIPS)	COPED BEAM CONNECTION CAPACITY - ASD (1) (KIPS)	SINGLE COPE (5)	DOUBLE COPE (5)
C8,C9,C10	2	1/4"	5/16"	3/16"	CJP	16.4	17.8	7.6	NR (6)
W8	2	1/4"	5/16"	3/16"	CJP	16.4	19.9	7.6	NR (6)
W10	2	1/4"	5/16"	3/16"	CJP	16.4	22.2	11.0	11.4
C12,C15	3	1/4"	5/16"	3/16"	CJP	33.3	33.3	17.5	19.0
W12	3	1/4"	5/16"	3/16"	CJP	34.8	35.1	18.3	19.6
W14	3	5/16"	5/16"	1/4"	3/16"	34.8	40.4	31.2	23.9
W16	4	5/16"	5/16"	1/4"	3/16"	55.2	58.5	46.4	36.6
W18	5	5/16"	5/16"	1/4"	3/16"	75.8	87.8	73.3	71.9
W21	6	5/8"	5/16"	5/16"	1/4"	96.0	122.9	119.0	115.2
W24	7	5/8"	5/16"	5/16"	1/4"	115.4	148.4	148.4	148.4
W27	8	5/8"	3/8"	5/16"	1/4"	161.8	169.6	NR (6)	NR (6)
W30	8	7/16"	3/8"	5/16"	5/16"	161.8	169.6	NR (6)	NR (6)
W33	9	7/16"	3/8"	5/16"	5/16"	183.2	190.8	NR (6)	NR (6)
W36	10	7/16"	3/8"	5/16"	5/16"	204.7	206.4	NR (6)	NR (6)

BOLTED DOUBLE SHEAR PLATE CONNECTION NOTES:
1. ALLOWABLE STRENGTH DESIGN (ASD) AND LOAD RESISTANCE FACTOR DESIGN (LRFD) VALUES AS NOTED IN SCHEDULE "B" ARE CAPACITIES BASED ON AISC 13TH EDITION.
2. UNCOPED CAPACITIES OF WT CONNECTIONS ARE VALID WITH MINIMUM NOMINAL HSS COLUMN WALL TABULATED THICKNESS. THE EFFECTIVE THROAT OF FLARE BEVEL GROOVE WELDS IS BASED ON OUTSIDE RADIUS OF HSS, AND IS TAKEN AS 5/8 TIMES THE HSS WALL THICKNESS BASED ON AWS D1.1, TABLE 2.1.
3. "S" REFERS TO THE DEPTH OF PREPARATION FOR BEVEL GROOVE WELD, EFFECTIVE WELD SIZE (E), IS EQUAL TO S-1/8" PER AWS D1.1.
4. WELD SIZES SHALL BE THE LARGER OF THE SIZE (t), TABULATED IN SCHEDULE "B" OR MINIMUM SHOWN IN TABLE 1.
5. ALLOWABLE COPE DEPTHS AND WIDTHS PER SCHEDULE "A" ON THE SINGLE SHEAR PLATE (SINGLE ROW) CONNECTIONS DETAIL 10/S402, WHERE COPED BEAMS ARE CONNECTED TO HSS COLUMNS, THE CAPACITY OF THE CONNECTION SHALL BE THE LESSER OF THE TABULATED COPE VALUES OR THE "TO HSS COLUMN" VALUE PER SCHEDULE "B".
6. NR = NOT RECOMMENDED. DOUBLE COPES FOR THESE BEAMS ARE RESTRICTED BY CONNECTION GEOMETRY AND/OR LARGE REDUCTIONS IN SHEAR CAPACITY. DOUBLE COPES ARE POSSIBLE, BUT MUST BE CALCULATED FOR SPECIFIC BEAM AND GIRDER GEOMETRIES AND MUST BE DETAILED SEPARATELY.

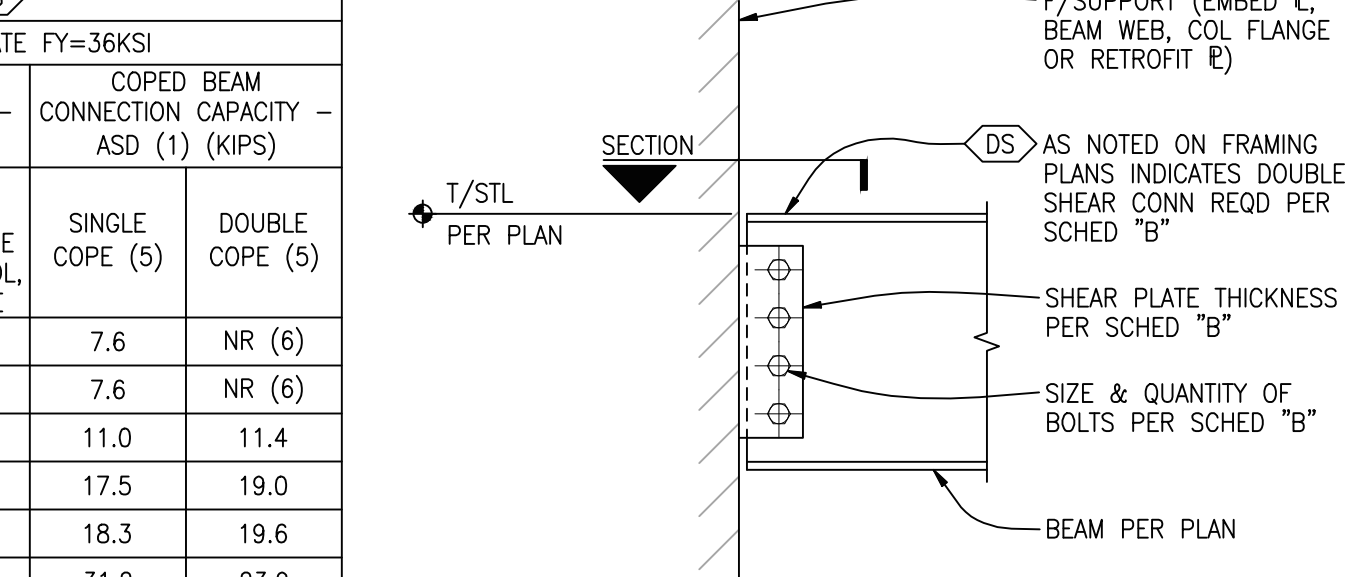
PLATE OR FLANGE THICKNESS (T) *	MINIMUM FILLET SIZE
T ≤ 1/2"	3/16"
1/2" < T ≤ 3/4"	1/4"
3/4" < T	5/16"

* MINIMUM WELD SIZE TO BE BASED ON THICKNESS OF THE THICKER PART.

DOUBLE SHEAR PLATE (SINGLE ROW) CONNECTIONS <DS>
05203

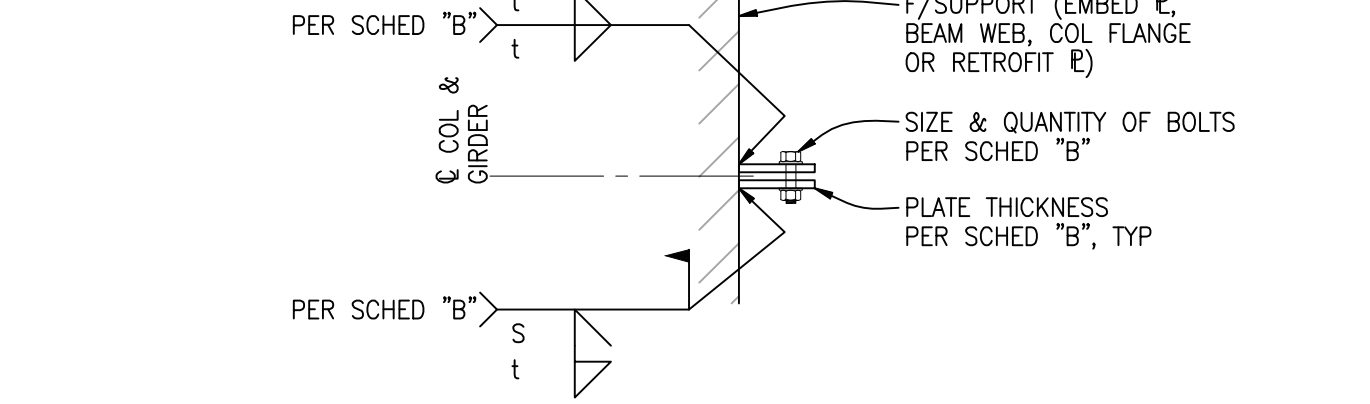


DOUBLE SHEAR PLATE (SINGLE ROW) CONNECTIONS <DS>
05203

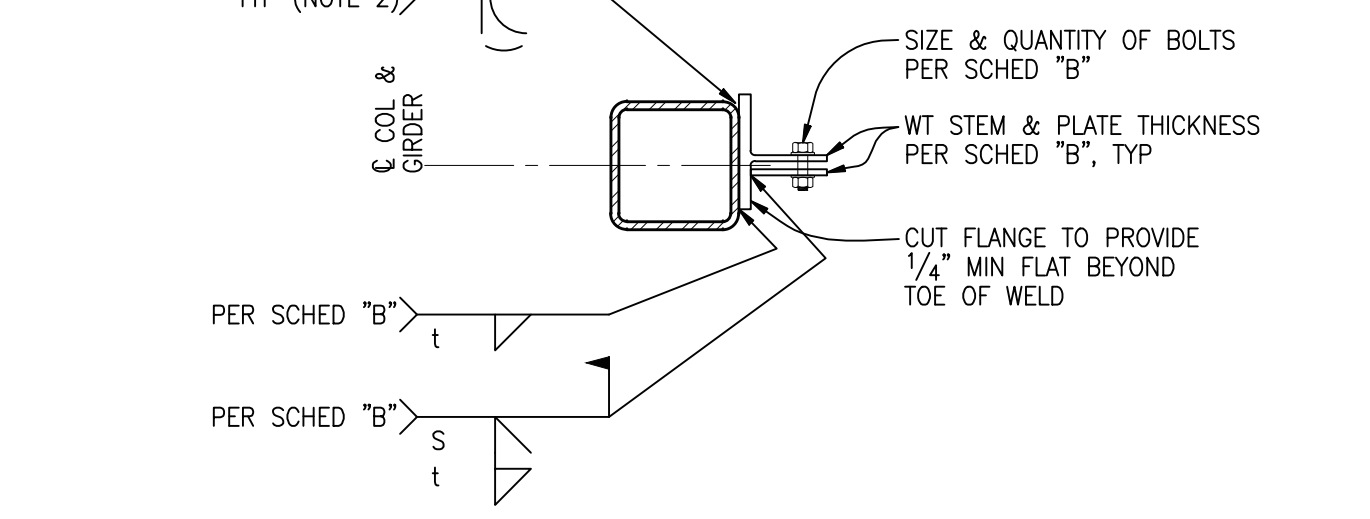


NOTE:
ADDITIONAL CONNECTION GEOMETRY, CONFIGURATIONS AND NOTES PER SINGLE SHEAR PLATE (SINGLE ROW) CONNECTIONS DETAIL 10/S402.

TYPICAL DOUBLE SHEAR PLATE CONNECTION



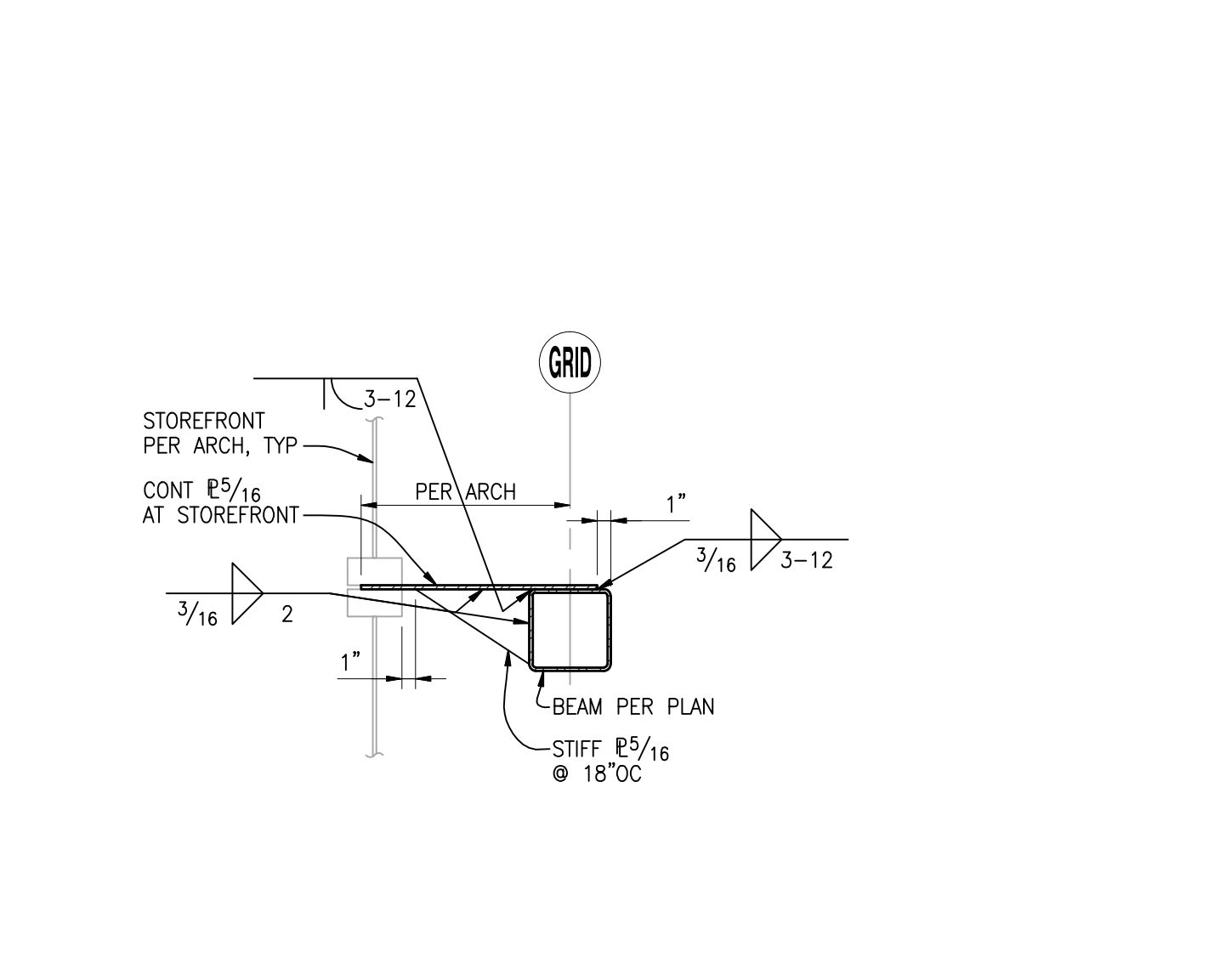
TYPICAL SECTION AT WIDE FLANGE COLUMN, BEAM WEB OR PLATE



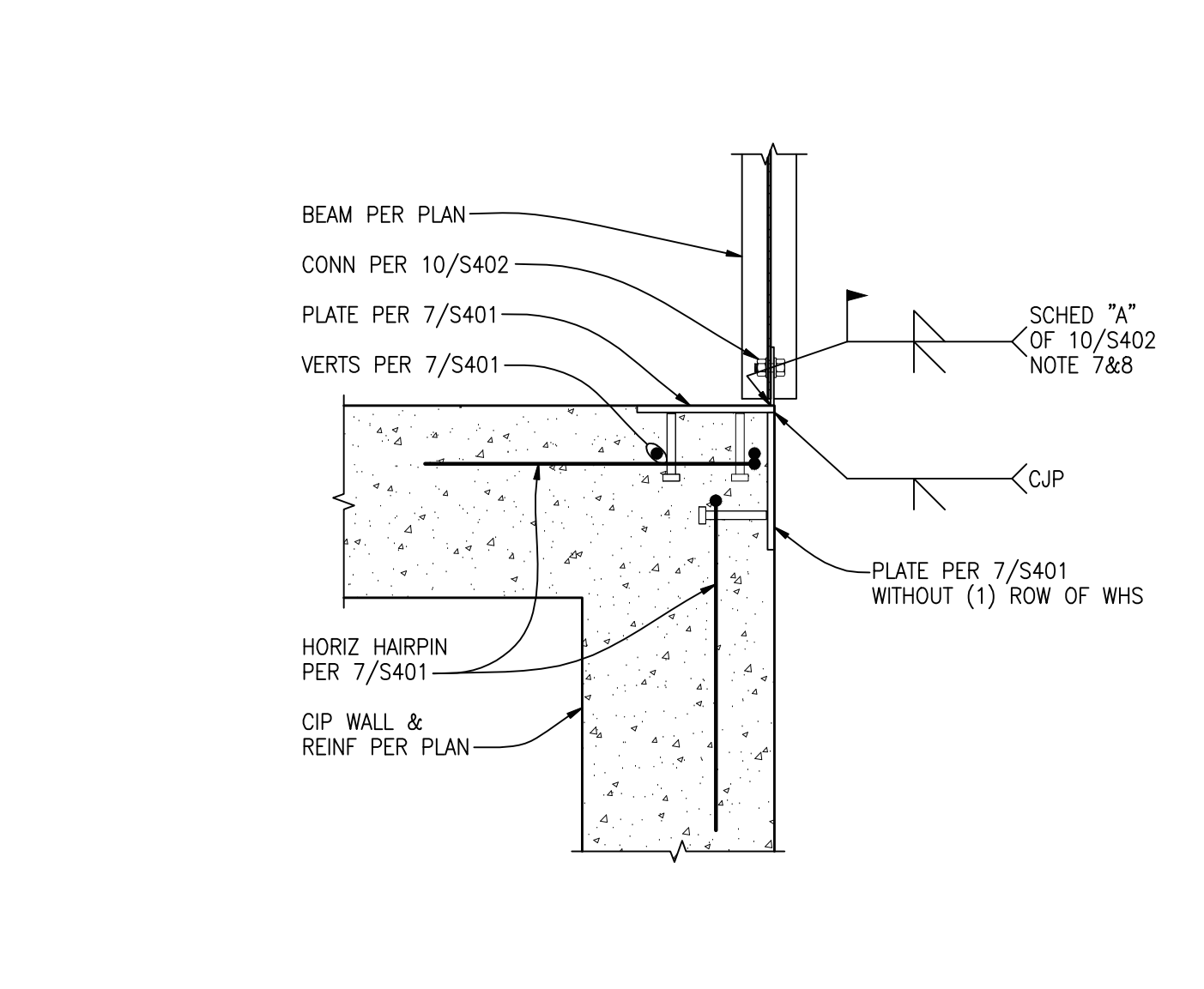
TYPICAL SECTION AT HSS COLUMN

DOUBLE SHEAR PLATE (SINGLE ROW) CONNECTIONS <DS>
05203 SCALE: 1"=1'-0"

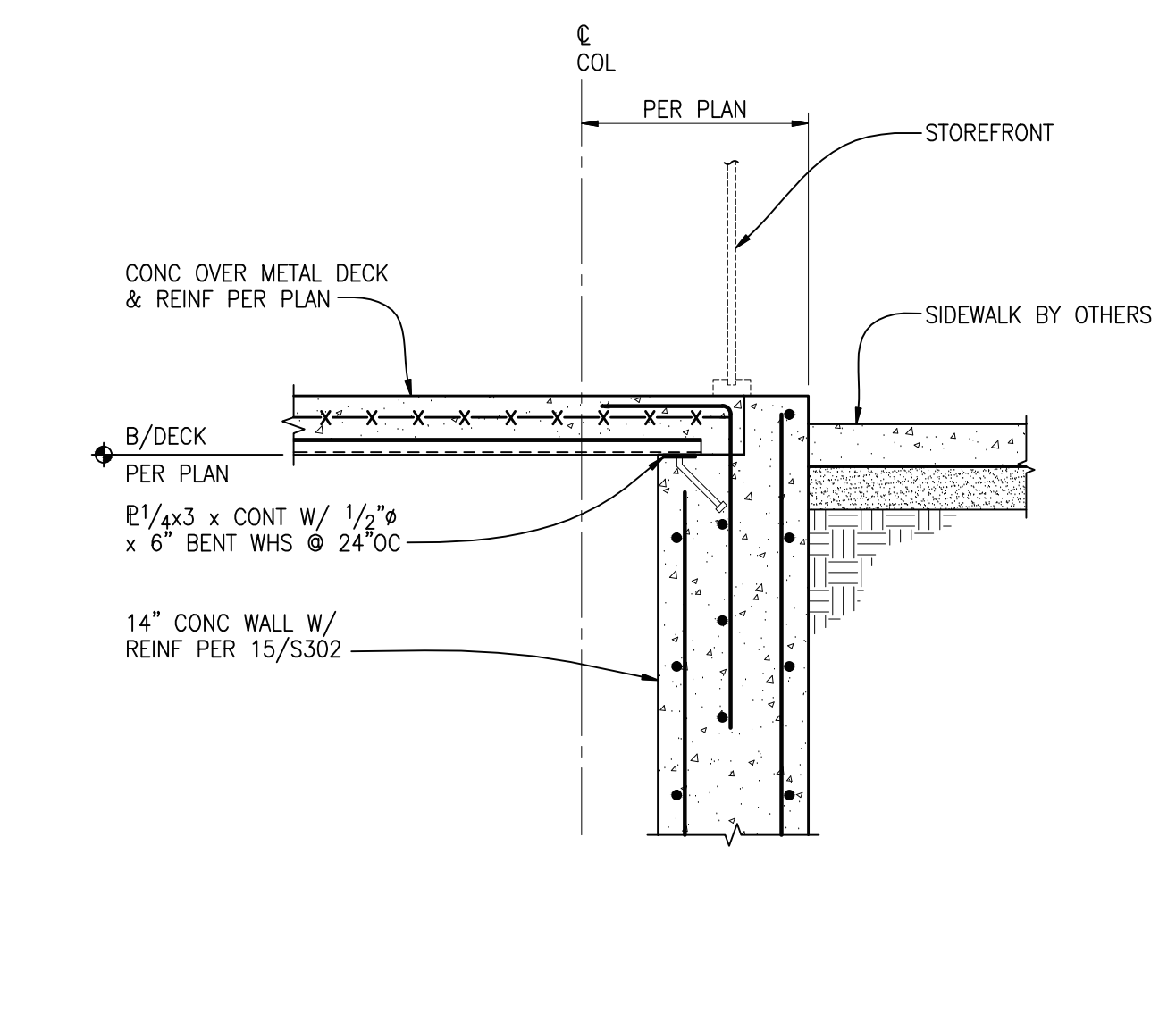
STOREFRONT SUPPORT AT LOBBY
05208 SCALE: 1"=1'-0"



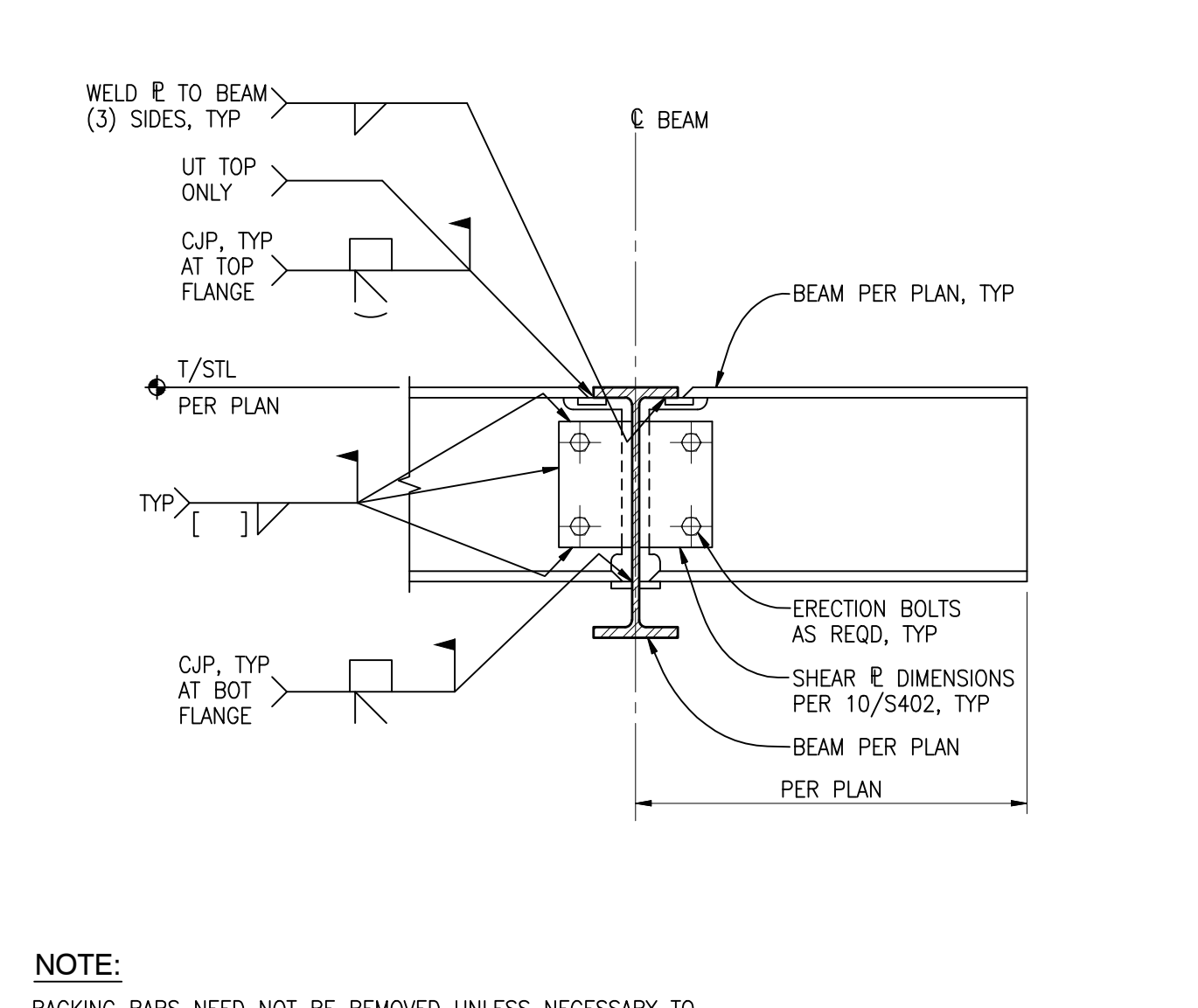
PLAN - BEAM CONNECTION AT WALL CORNER
05206 SCALE: 1"=1'-0"



STORE FRONT ENTRY
05203 SCALE: 3/4"=1'-0"



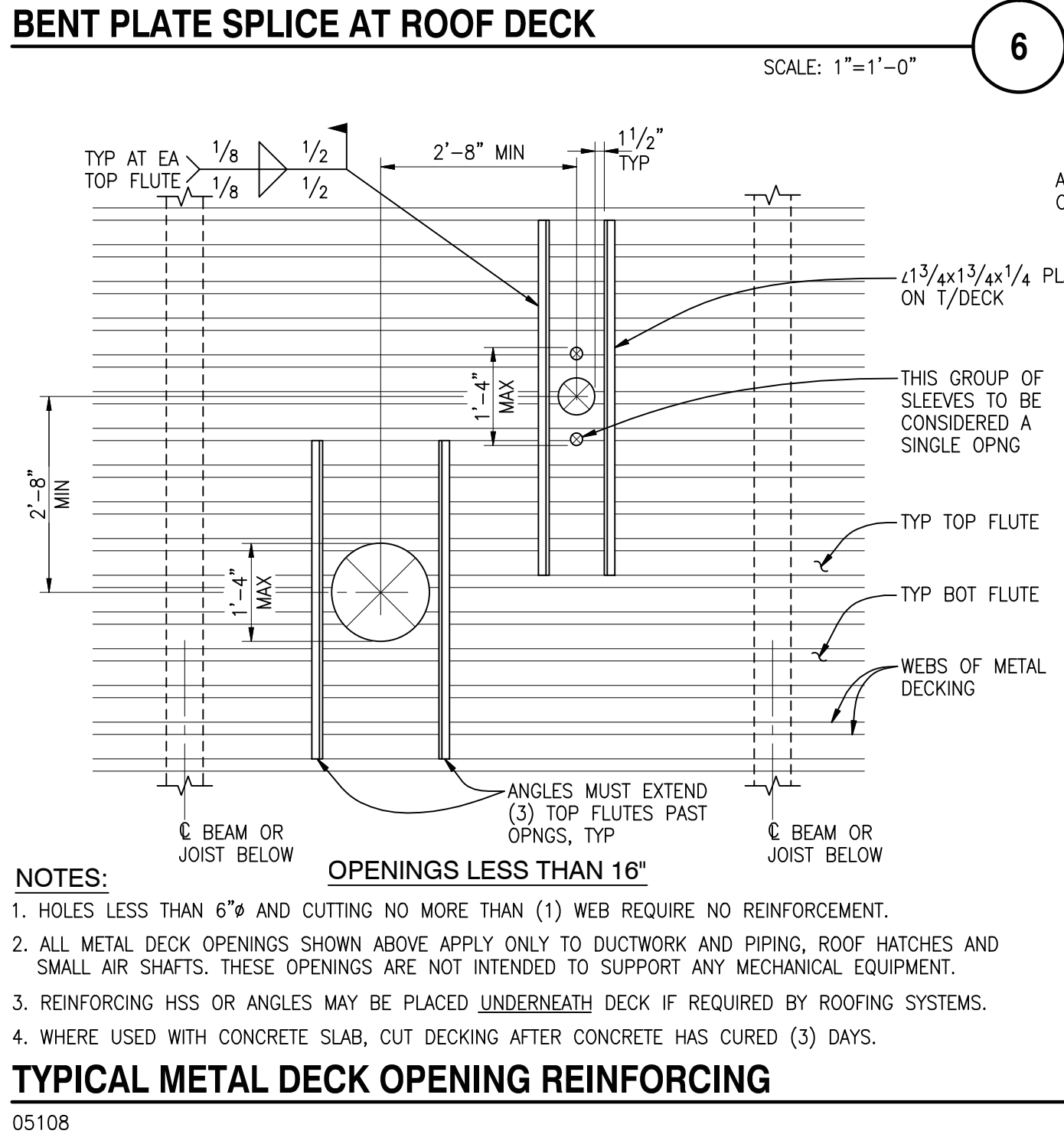
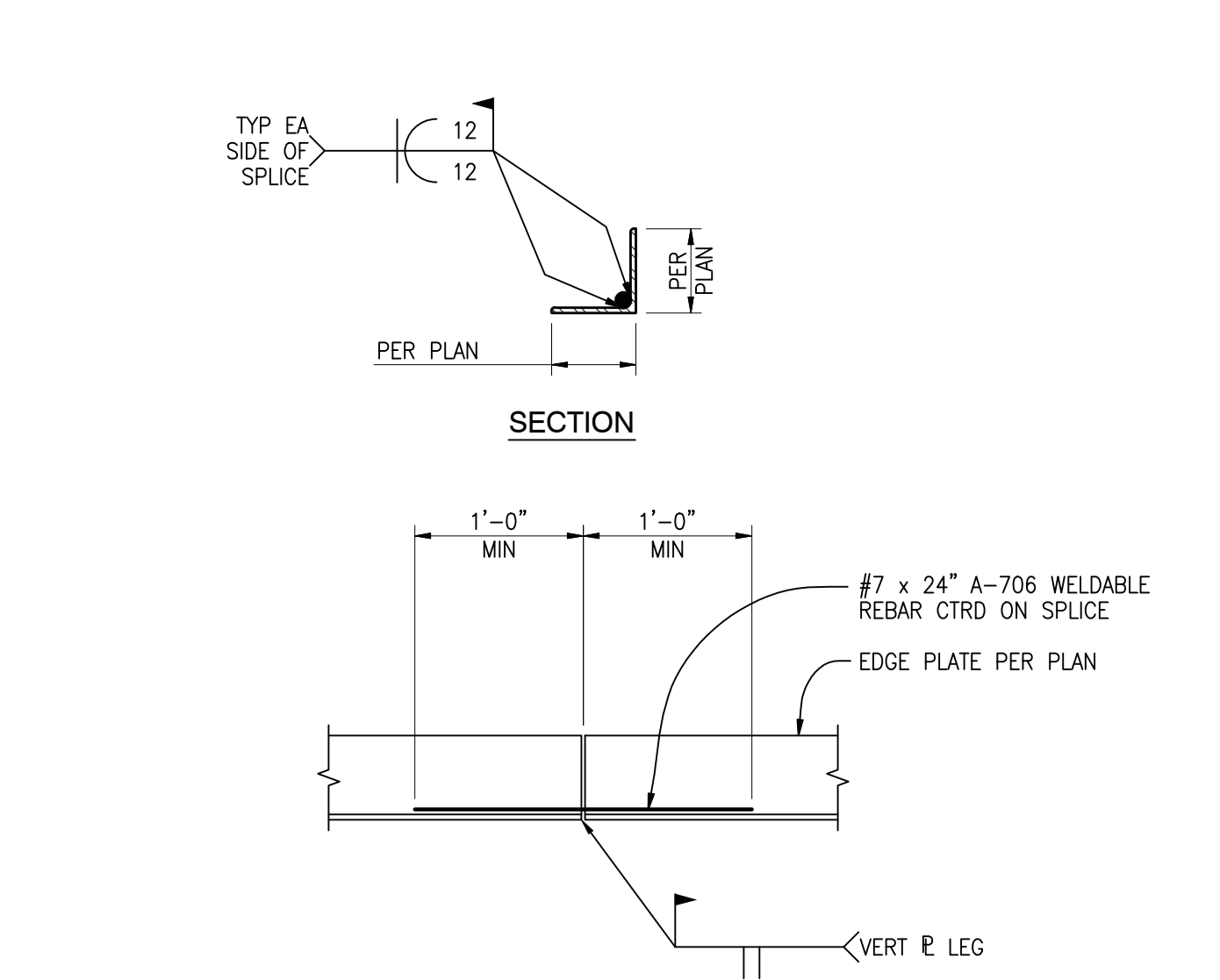
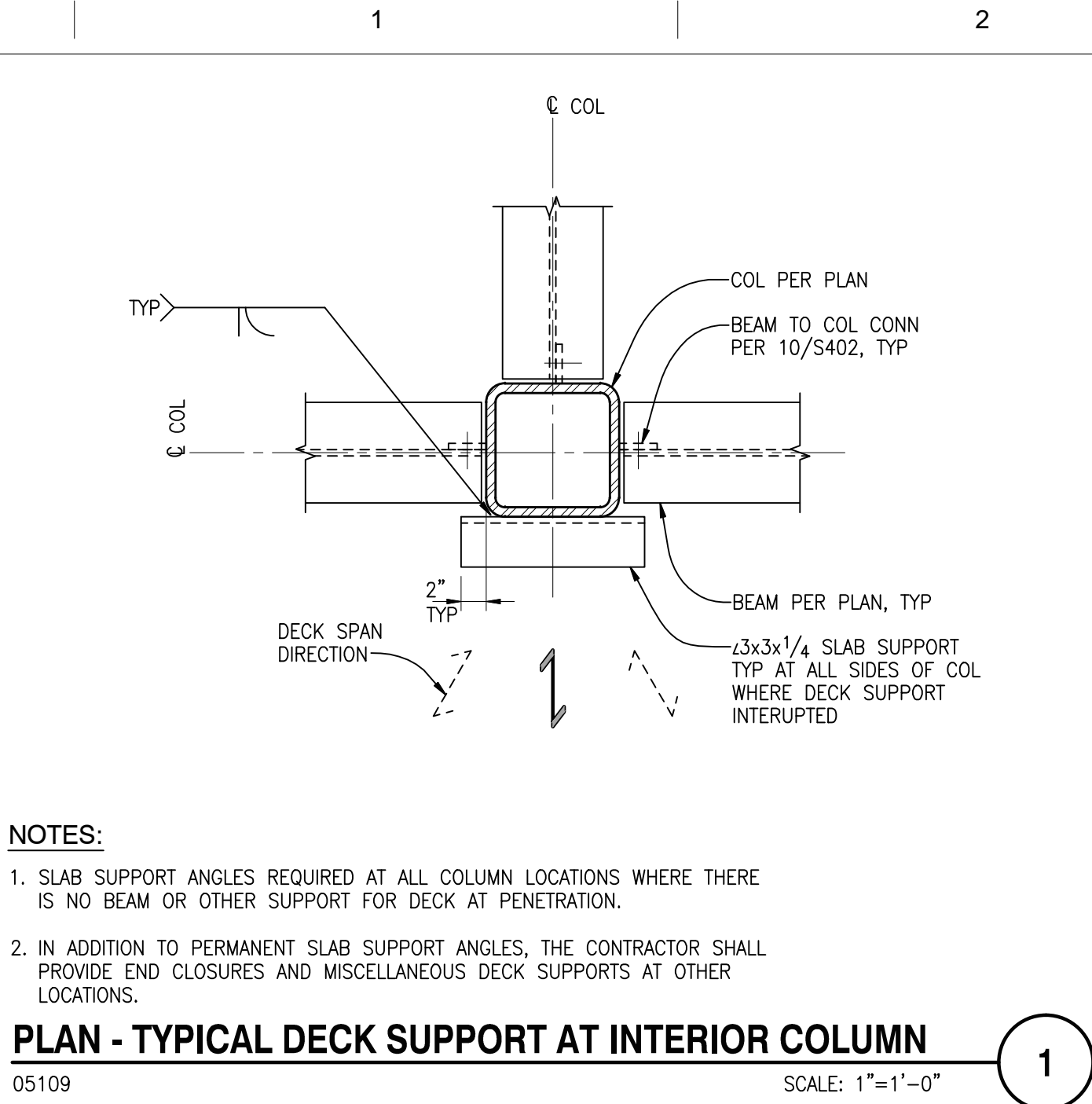
TYPICAL CANTILEVER OVER A BEAM
05211 SCALE: 1"=1'-0"



NOTE:
BACKING BARS NEED NOT BE REMOVED UNLESS NECESSARY TO PERFORM UT INSPECTION.

**BID DOCUMENT
NOVEMBER 02, 2015**

CONSULTANTS: ENGINEERS 601 W. RIVERSIDE - SUITE 600 SPOKANE, WASHINGTON 99201 PHONE: (509) 455-4448 - FAX: (509) 455-7462 WEBSITE: www.edcigrp.com CIVIL / STRUCTURAL DCI JOB NO. 13041-0246		ARCHITECT/ENGINEERS: KMA ARCHITECTS 14410 SE PETROVITSKY ROAD SUITE 206 RENTON, WA 98058 425-291-7078		Drawing Title STEEL FRAMING DETAILS Approved: Project Director		Project Title INTENSIVE OUTPATIENT MENTAL HEALTH AND EDUCATION BUILDING 4815 NORTH ASSEMBLY ST. SPOKANE, WASHINGTON 99205		Project Number 668-313 Building Number 40A		Office of Construction and Facilities Management 	
BID DOCUMENT 100% CONSTRUCTION DOCUMENT 99% CONSTRUCTION DOCUMENT 95% CONSTRUCTION DOCUMENT 65% DESIGN DEVELOPMENT SCHEMATIC DESIGN		11/02/15 01/26/15 12/30/14 12/17/14 10/13/14 06/27/14 03/28/14		Issue Date 11/02/2015		Checked CL		Drawn JWH		Drawing Number S401 Dwg. of	



NOTES:

- HOLES LESS THAN 6\"/>

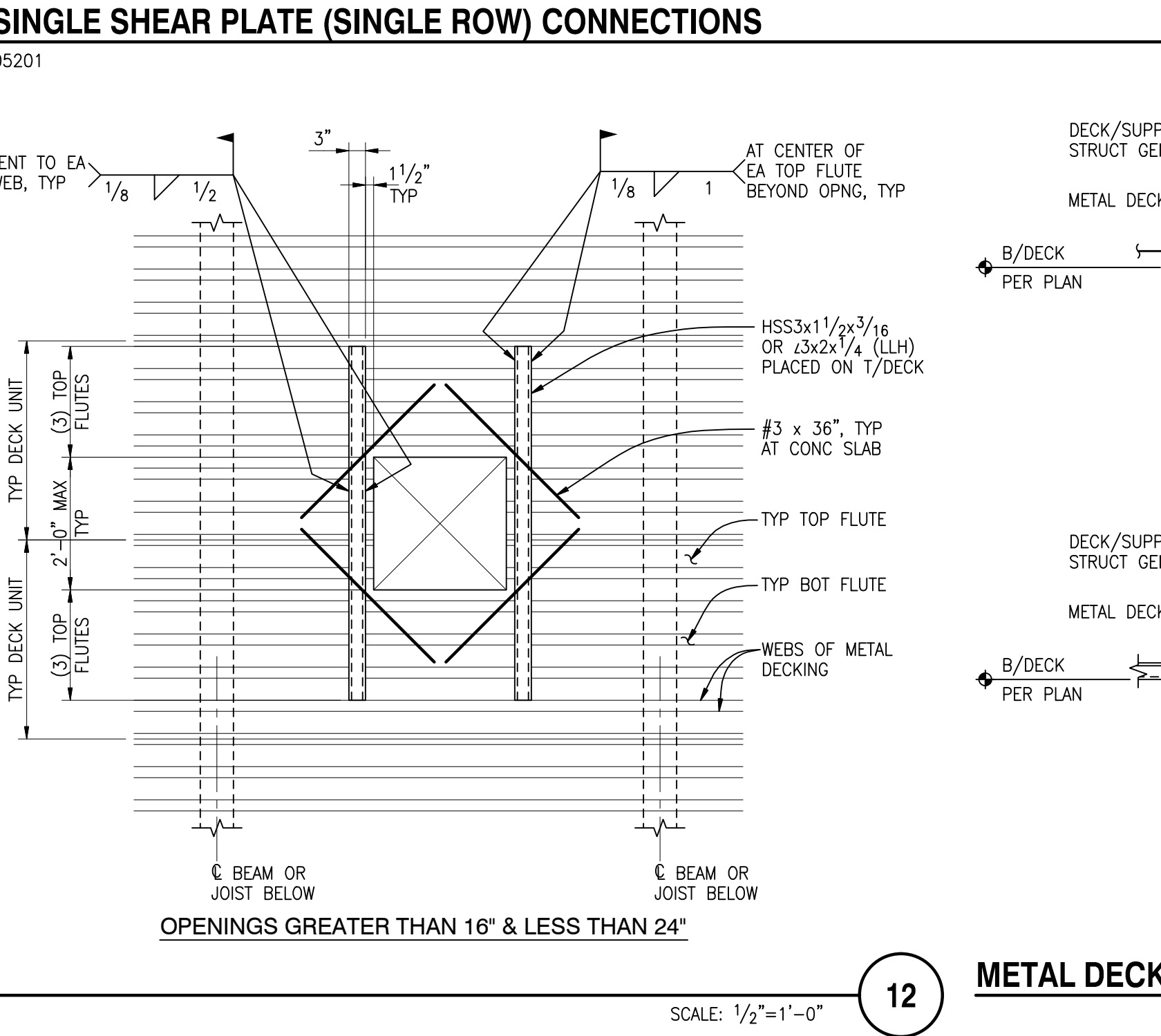
TYPICAL METAL DECK OPENING REINFORCING

05108

Revisions	Issues	Date

BOLTED SINGLE SHEAR PLATE CONNECTION - SCHEDULE "A"									
SINGLE ROW			BEAM F _y =50KSI - CONNECTION PLATE F _y =36KSI						
BEAM SIZE	"N" BOLTS REQUIRED (1)	MIN SHEAR PLATE OR WT STEM THICKNESS	MIN HSS COLUMN WALL THICKNESS (10)	WELD SIZE (7)	MAX SINGLE COPE DEPTH (9)	MAX DOUBLE COPE DEPTH (9)	CONNECTION CAPACITY - ASD (3) (KIPS)		
							UNCOPED	SINGLE	DOUBLE
C8,C9,C10	2	1/4"	1/4"	3/16"	1 1/4"	NR (11)	13.2	7.6	NR (11)
W8	2	1/4"	1/4"	3/16"	1 1/4"	NR (11)	13.2	7.6	NR (11)
W10	2	1/4"	1/4"	3/16"	2 1/2"	1 1/4"	13.2	11.0	11.0
C12,C15	3	1/4"	1/4"	3/16"	2"	1 1/4"	25.6	17.5	17.5
W12	3	1/4"	1/4"	3/16"	2"	1 1/4"	25.6	18.3	18.3
W14	3	5/16"	1/4"	1/4"	2 1/2"	1 1/2"	27.8		23.9
W16	4	5/16"	1/4"	1/4"	2 1/2"	1 1/2"	42.4		36.6
W18	5	5/16"	5/16"	1/4"	2 1/2"	1 1/2"	53.0		
W21	6	3/8"	5/16"	5/16"	2 1/2"	1 1/2"	63.6		
W24	7	3/8"	5/16"	5/16"	2 1/2"	1 1/2"	74.2		
W27	8	3/8"	3/8"	5/16"	2 1/2"	NR (11)	84.8		NR (11)
W30	8	7/16"	3/8"	5/16"	2 1/2"	NR (11)	84.8		NR (11)
W33	9	7/16"	3/8"	5/16"	2 1/2"	NR (11)	95.4		NR (11)
W36	10	7/16"	3/8"	5/16"	2 1/2"	NR (11)	103.2		NR (11)

- BOLTED SINGLE ROW SHEAR PLATE CONNECTION NOTES:**
- PROVIDE EITHER STANDARD OR HORIZONTAL SHORT SLOTTED HOLES AS PERMITTED BY AISC J3.2 IN THE BEAM WEB AND/OR THE SHEAR PLATE.
 - WHERE SHORT-SLOTTED HOLES ARE USED, PROVIDE HARDENED WASHERS PER AISC J3.2.
 - CAPACITIES BASED ON AISC 13TH EDITION WITH ASTM A325-N BOLTS.
 - HORIZONTAL DISTANCE FROM SUPPORT FACE TO CENTERLINE OF BOLT GROUP SHALL BE AS SHOWN IN THE DETAILS, BUT SHALL NOT EXCEED 3 1/2" IN THE AS-BUILT CONDITION. SUPPORT FACE FOR TEE IS THE INSIDE FACE OF FLANGE.
 - VERTICAL EDGE DISTANCE FROM BOLT CENTERLINE TO EDGE OF STEEL SHALL BE 1 1/2" TYPICALLY, EXCEPT THAT 1 1/4" IS PERMITTED PER AISC TABLE J3.4 FOR 3/4" DIAMETER BOLTS WITHOUT ANY REDUCTION IN THE TABULATED CAPACITIES.
 - GAP BETWEEN BEAM END AND SUPPORT FACE SHALL BE 1/2" EXCEPT FOR "WT" CONNECTORS USED WITH HSS COLUMNS. WHERE "WT" ARE USED AS SHEAR TAB ELEMENTS, THE GAP BETWEEN FACE OF COLUMN AND END OF BEAM SHALL NOT EXCEED THE LESSER OF 1 1/2" OR THE "X" DISTANCE OF THE "WT" PLUS 1/4".
 - WELD SIZES SHALL BE THE LARGER OF THE SIZE (1), TABULATED IN SCHEDULE "A" OR MINIMUM SHOWN IN TABLE 1.
 - FIELD FILLET WELDS SHALL BE SIZED TO BE AT LEAST 1/8" LARGER THAN THE WELD SIZE SHOWN IN SCHEDULE "A", UNLESS PROPER FIT-UP IS VERIFIED BY A SPECIAL INSPECTOR PRIOR TO WELDING.
 - COPE DEPTHS (SINGLE AND DOUBLE) SHALL NOT EXCEED THE LESSER OF THOSE SHOWN IN SCHEDULE "A", NOR AS ALLOWED BY BOLT HOLE SPACING AND MINIMUM EDGE DISTANCE REQUIREMENTS. SINGLE COPE LENGTH SHALL NOT EXCEED 6 1/2". DOUBLE COPE LENGTHS SHALL NOT EXCEED THAT REQUIRED TO ACCOMMODATE GIRDER FLANGE + 1/2" MAX GAP BETWEEN FLANGES.
 - UNCOPED CAPACITIES OF WT CONNECTIONS ARE VALID WITH MINIMUM NOMINAL HSS COLUMN WALL TABULATED THICKNESS. THE EFFECTIVE THROAT OF FLARE BEVEL GROOVE WELDS IS BASED ON OUTSIDE RADIUS OF HSS, AND IS TAKEN AS 5/8 TIMES THE HSS WALL THICKNESS BASED ON AWS D1.1, TABLE 2.1. WHEN 3/4" A325-N BOLTS ARE USED, A 3/16" HSS COLUMN WALL THICKNESS IS PERMITTED WITH A 20% REDUCTION OF THE WT CONNECTION CAPACITY.
 - NR = NOT RECOMMENDED. DOUBLE COPES FOR THESE BEAMS ARE RESTRICTED BY CONNECTION GEOMETRY AND/OR LARGE REDUCTIONS IN SHEAR CAPACITY. DOUBLE COPES ARE POSSIBLE, BUT CAPACITIES MUST BE CALCULATED FOR SPECIFIC BEAM AND GIRDER GEOMETRIES AND MUST BE DETAILED SEPARATELY.



ARCHITECT/ENGINEERS:

KMA ARCHITECTS

14410 SE PETROVITSKY ROAD SUITE 206
RENTON, WA 98058
425-291-7078

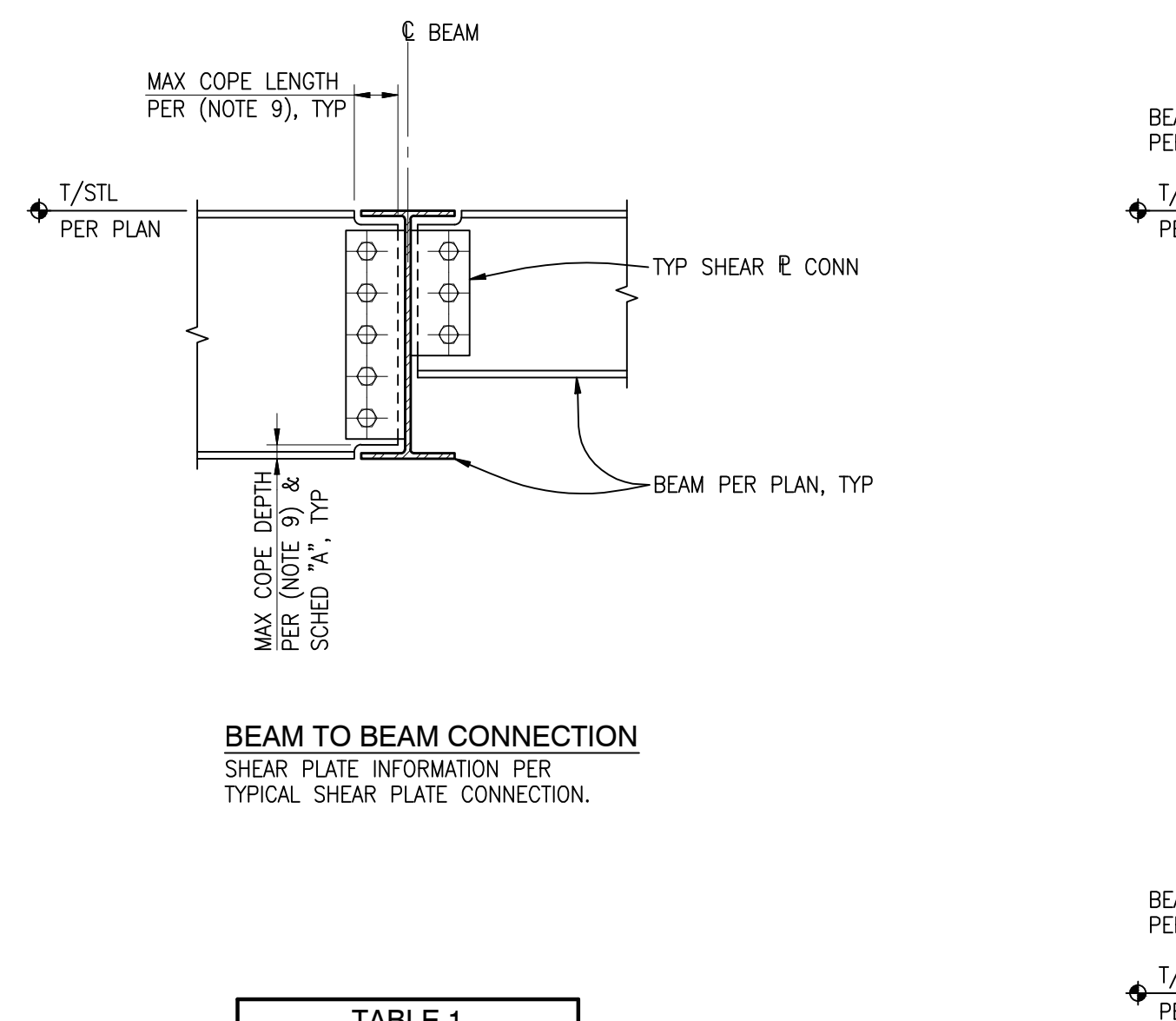
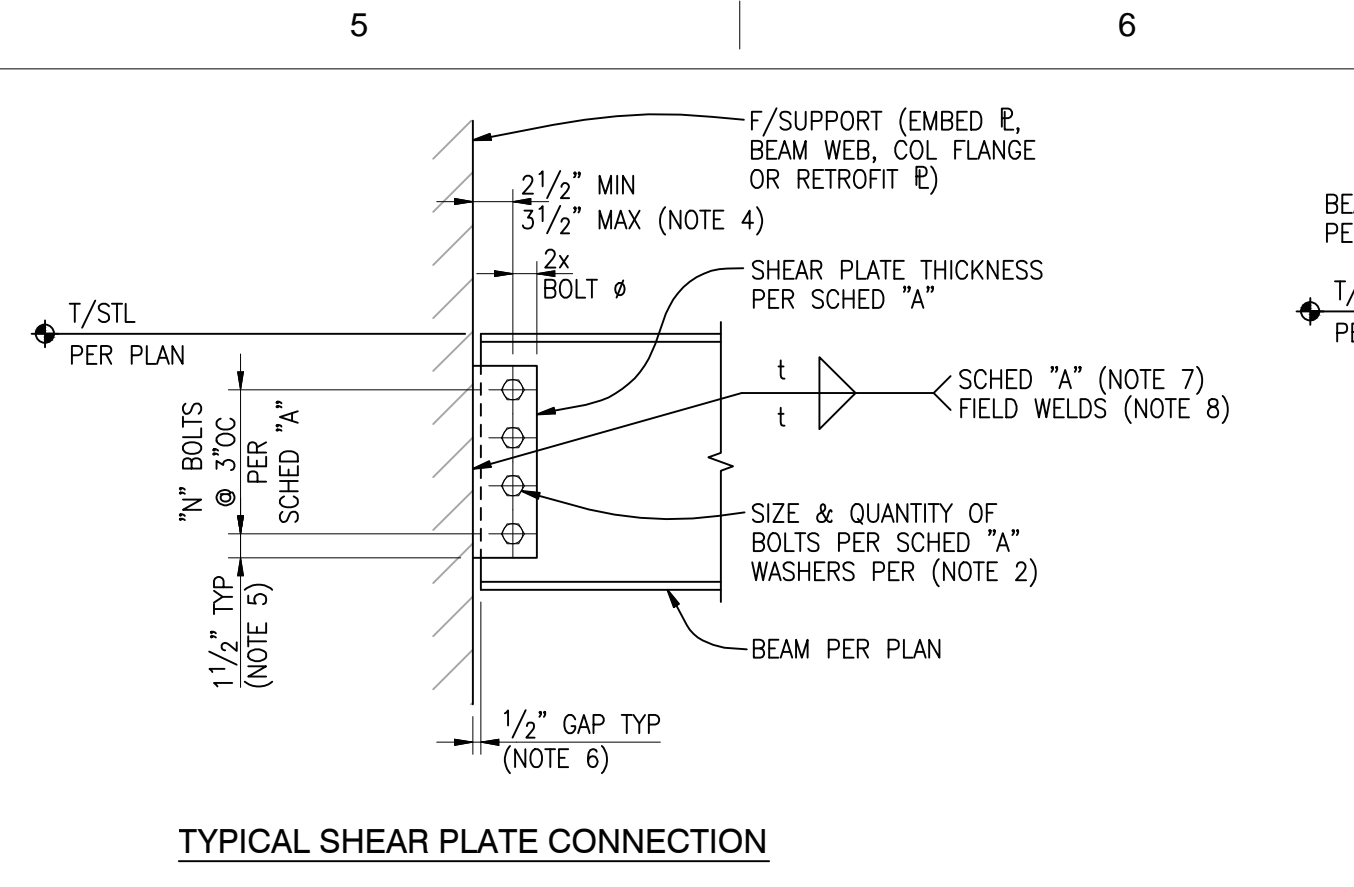
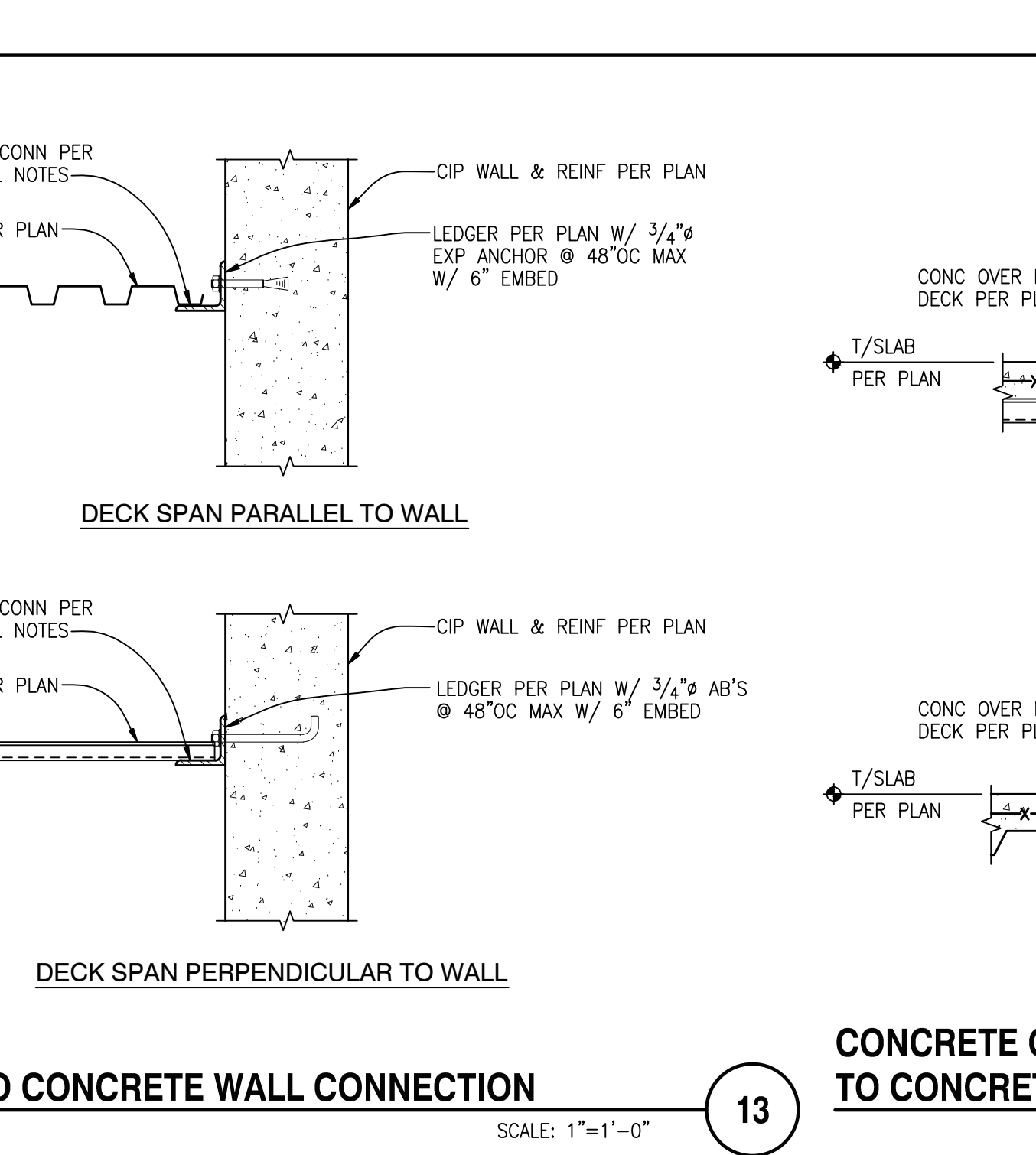


TABLE 1

MINIMUM WELD SIZE TABLE

PLATE OR FLANGE THICKNESS (1) *	MINIMUM FILLET SIZE
T ≤ 1/2"	3/16"
1/2" < T ≤ 3/4"	1/4"
3/4" < T	5/16"

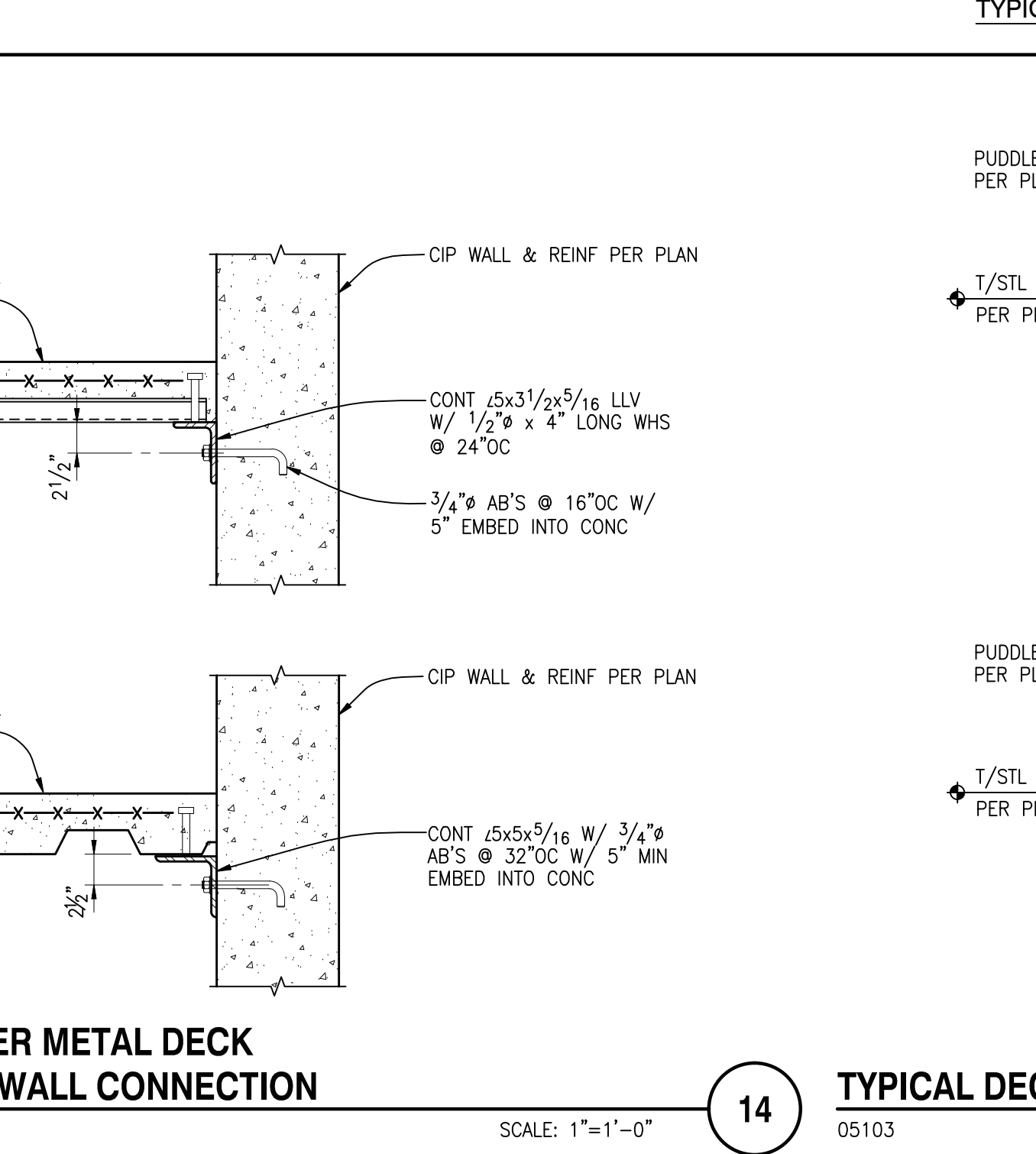
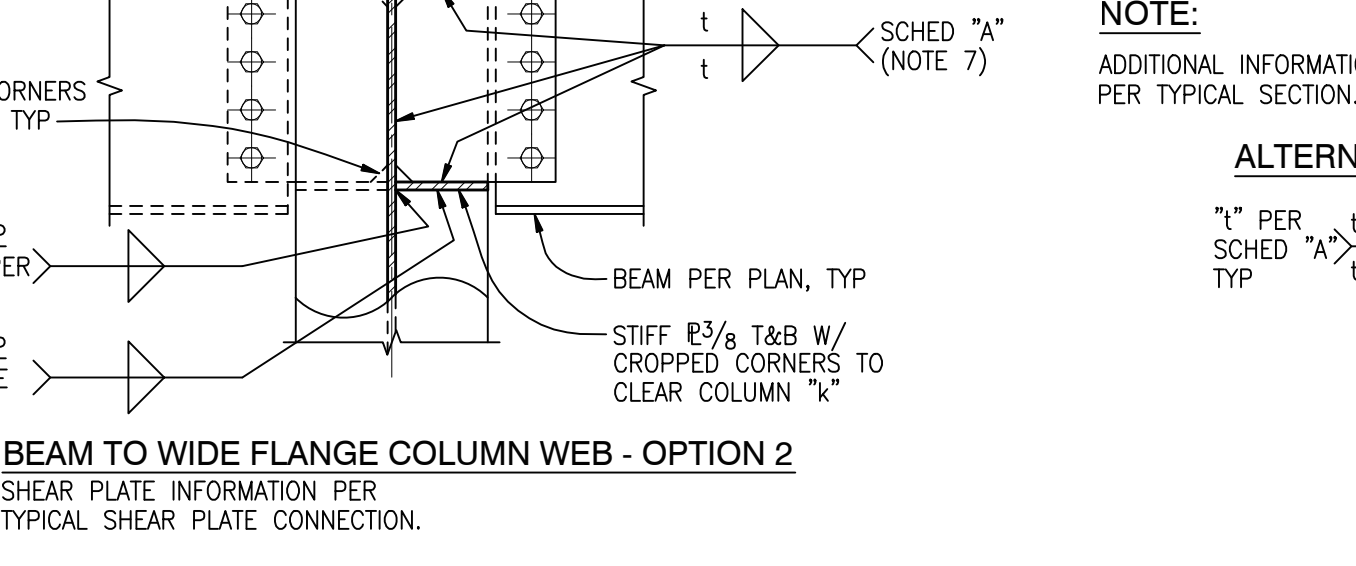
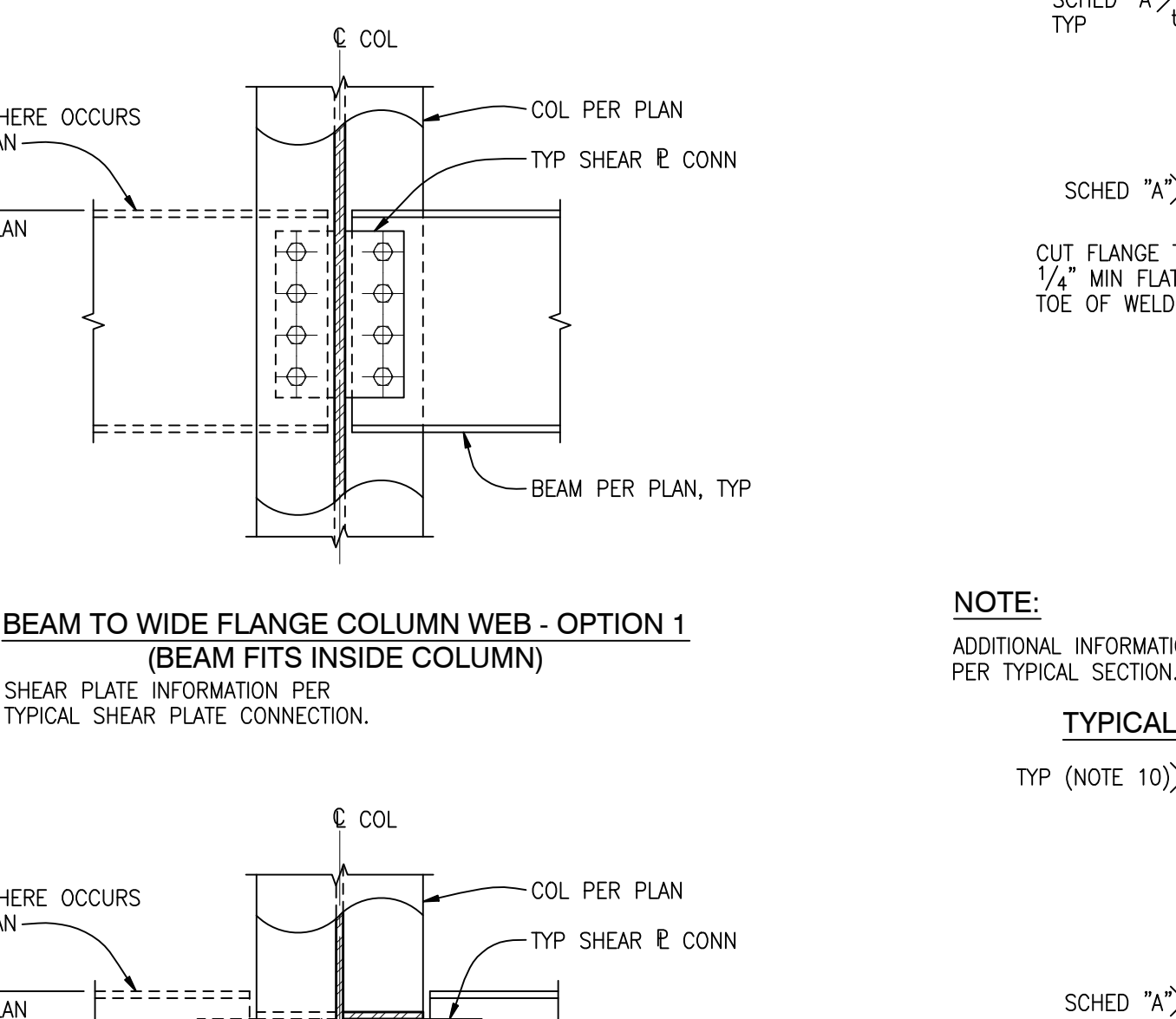
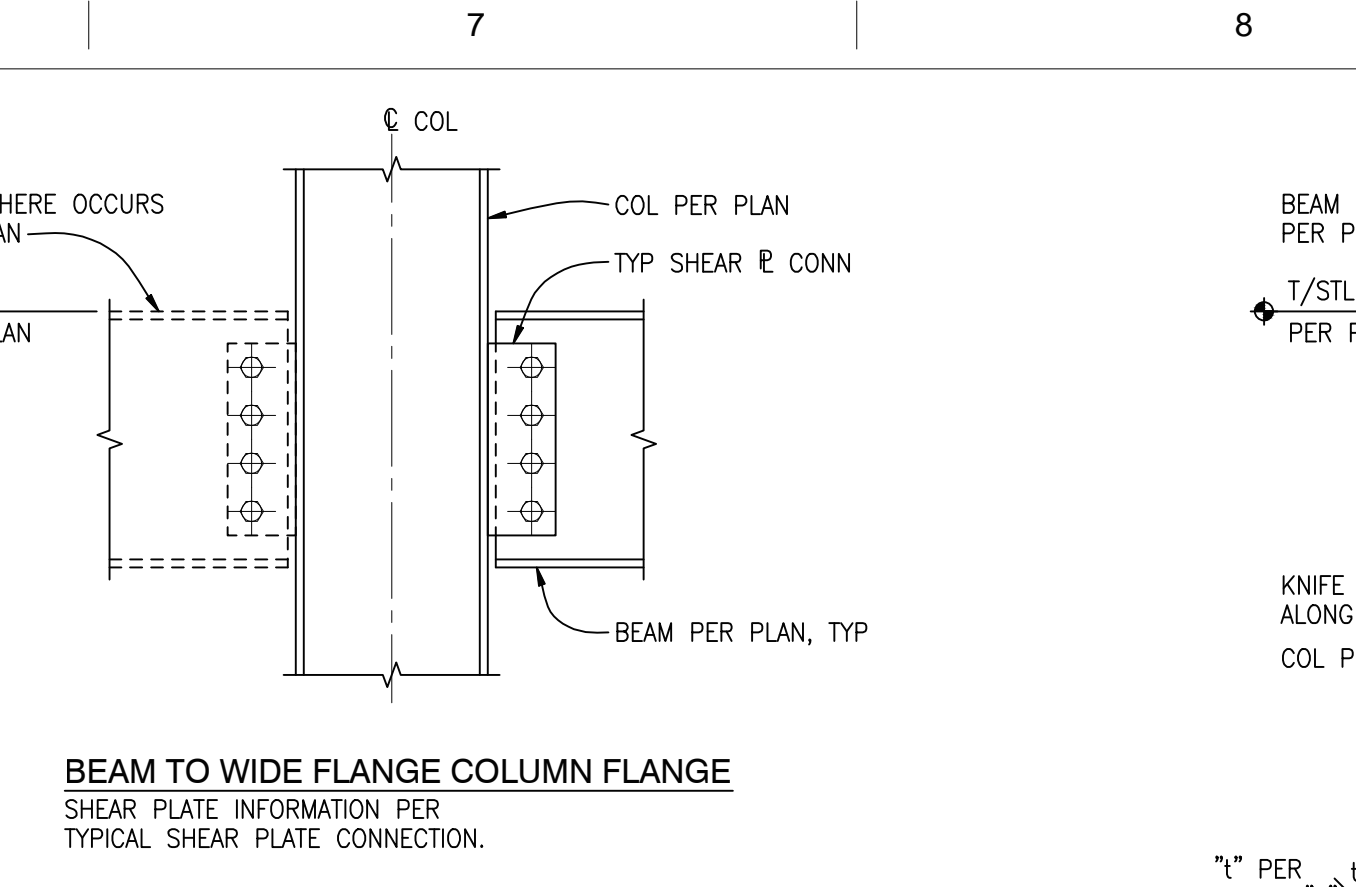
* MINIMUM WELD SIZE TO BE BASED ON THICKNESS OF THE THICKER PART.



ARCHITECT/ENGINEERS:

KMA ARCHITECTS

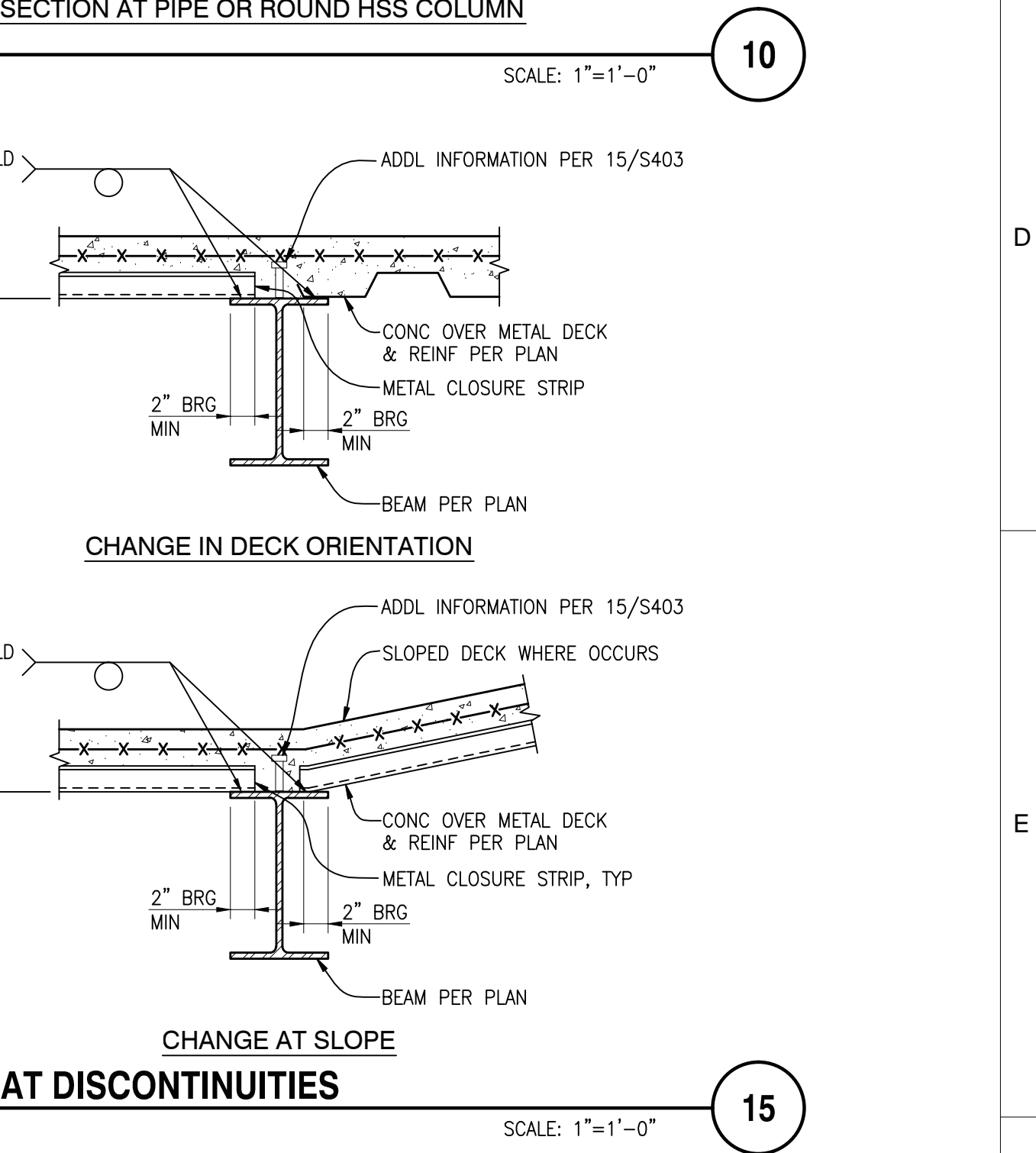
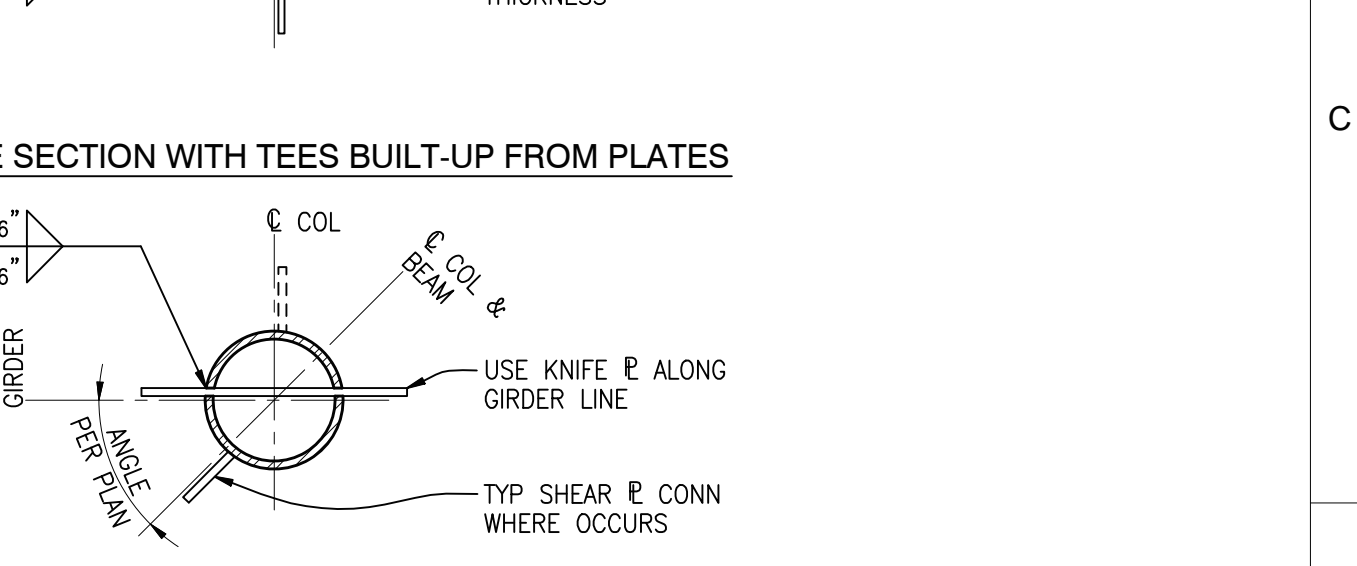
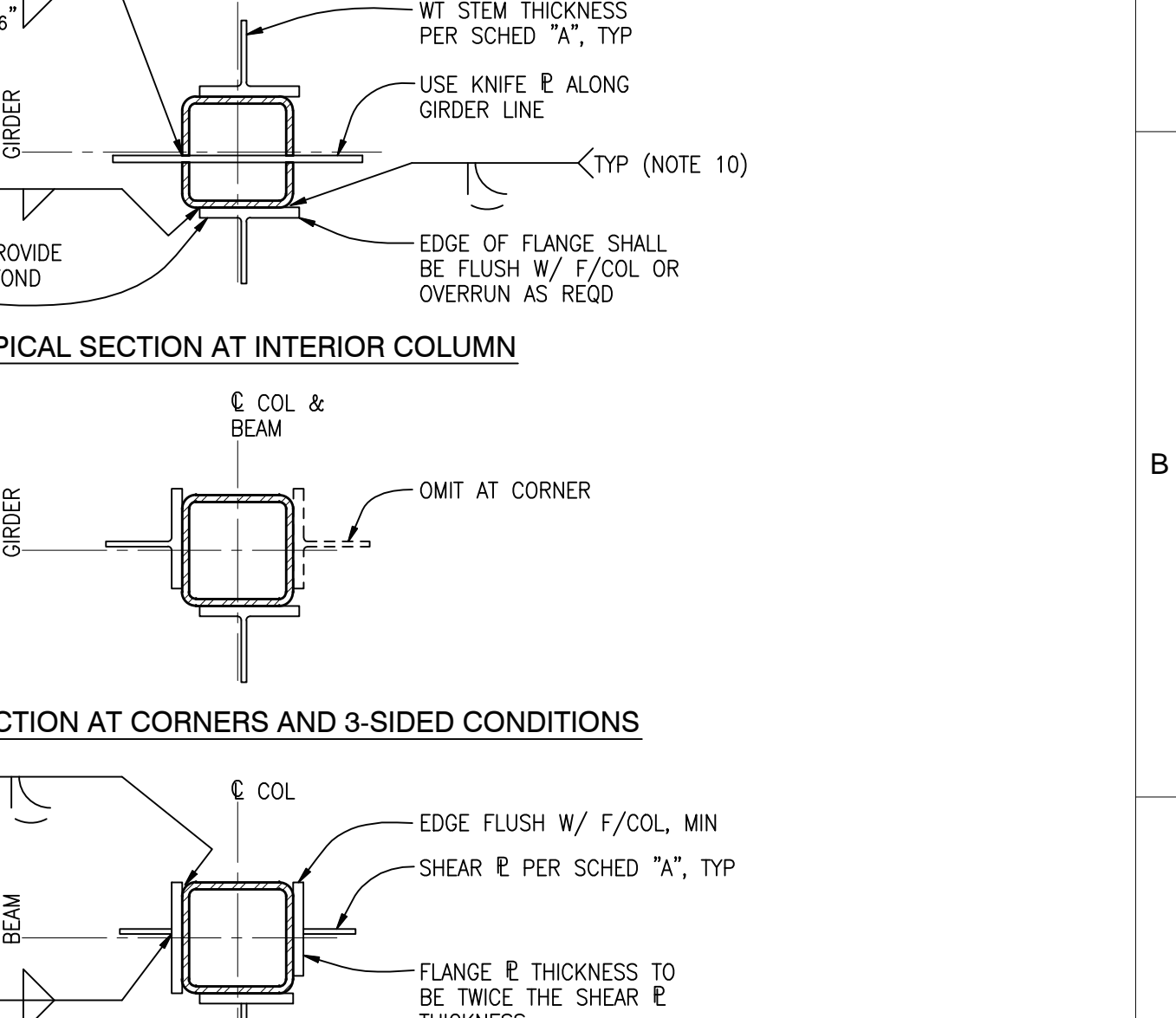
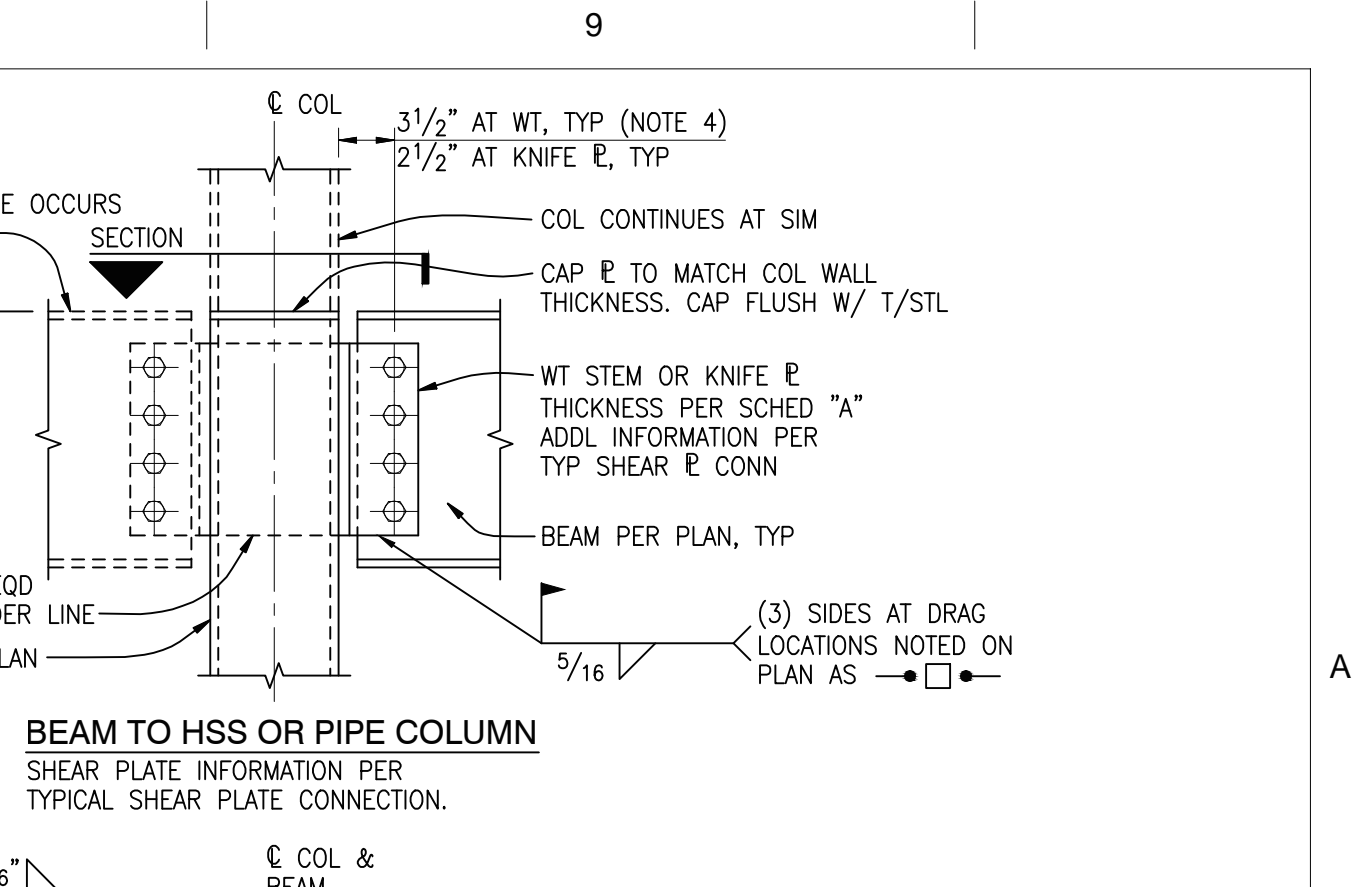
14410 SE PETROVITSKY ROAD SUITE 206
RENTON, WA 98058
425-291-7078



ARCHITECT/ENGINEERS:

KMA ARCHITECTS

14410 SE PETROVITSKY ROAD SUITE 206
RENTON, WA 98058
425-291-7078



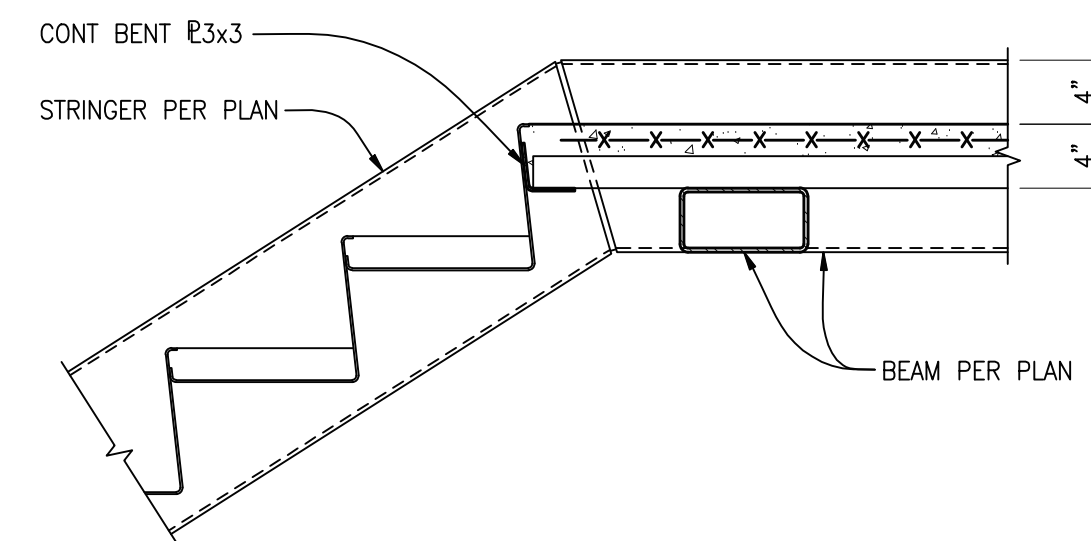
ARCHITECT/ENGINEERS:

KMA ARCHITECTS

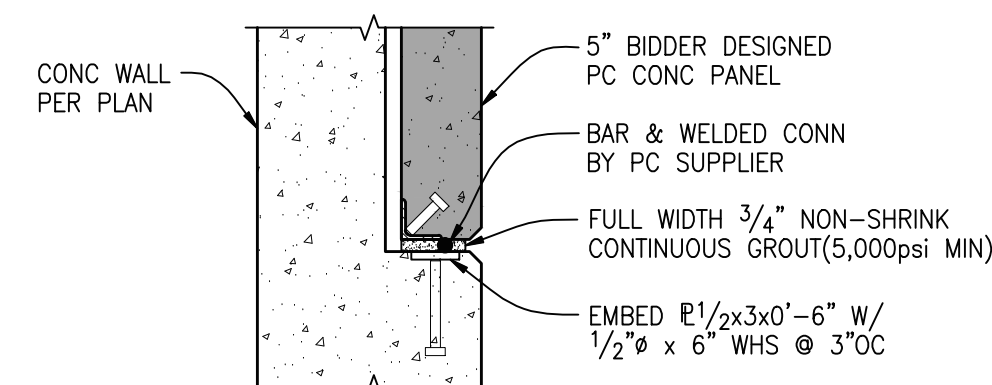
14410 SE PETROVITSKY ROAD SUITE 206
RENTON, WA 98058
425-291-7078

BID DOCUMENT
NOVEMBER 02, 2015

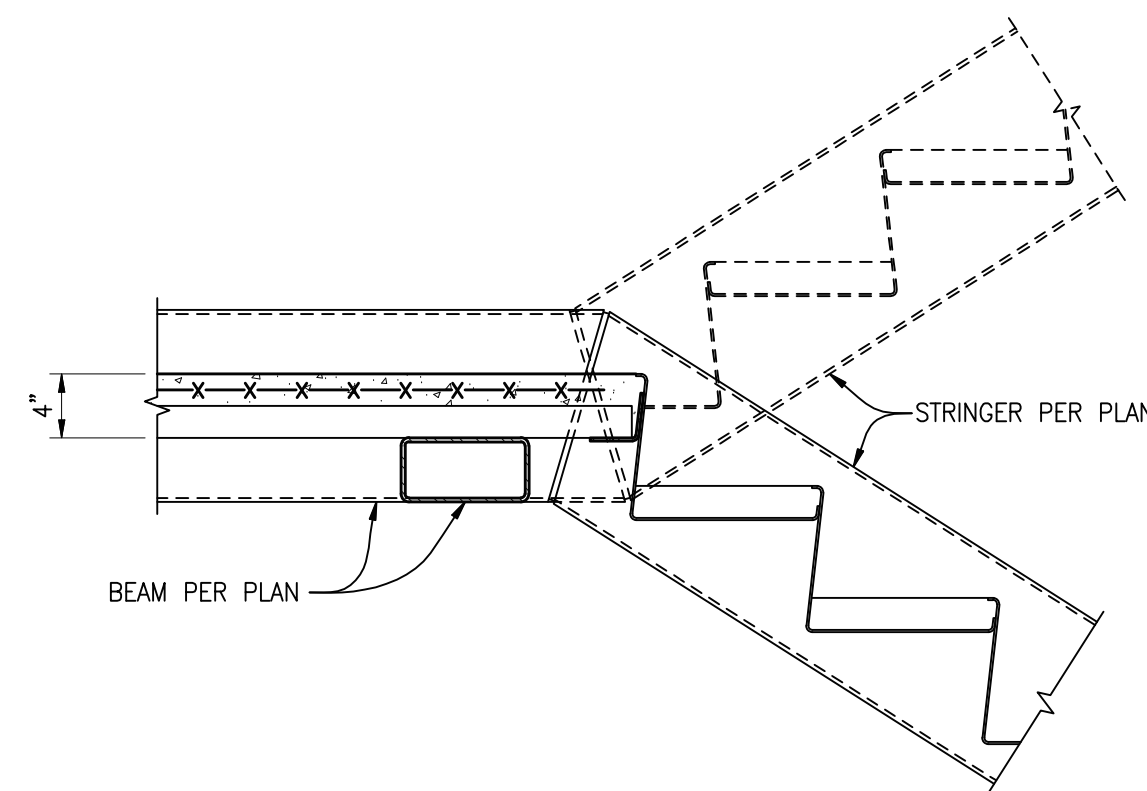
BID DOCUMENT 100% CONSTRUCTION DOCUMENT 99% CONSTRUCTION DOCUMENT 95% CONSTRUCTION DOCUMENT 65% DESIGN DEVELOPMENT SCHEMATIC DESIGN		11/02/15 01/26/15 12/30/14 12/17/14 10/13/14 06/27/14 03/28/14	Revisions Issues Date	CONSULTANTS: EDCI ENGINEERS 801 W. RIVERSIDE - SUITE 600 SPOKANE, WASHINGTON 99201 PHONE: (509) 455-4448 - FAX: (509) 455-7492 WEBSITE: www.edci-engineers.com DCI JOB NO. 13041-0246	ARCHITECT/ENGINEERS: KMA ARCHITECTS 14410 SE PETROVITSKY ROAD SUITE 206 RENTON, WA 98058 425-291-7078	Drawing Title STEEL FRAMING DETAILS Approved: Project Director	Project Title INTENSIVE OUTPATIENT MENTAL HEALTH AND EDUCATION BUILDING 4815 NORTH ASSEMBLY ST. SPOKANE, WASHINGTON 99205 Location SPOKANE, WASHINGTON 99205 Issue Date 11/02/2015 Checked CL Drawn JWH	Project Number 668-313 Building Number 40A Drawing Number S402 Dwg. of	Office of Construction and Facilities Management Department of Veterans Affairs
---	--	--	-----------------------------	--	---	---	--	---	--



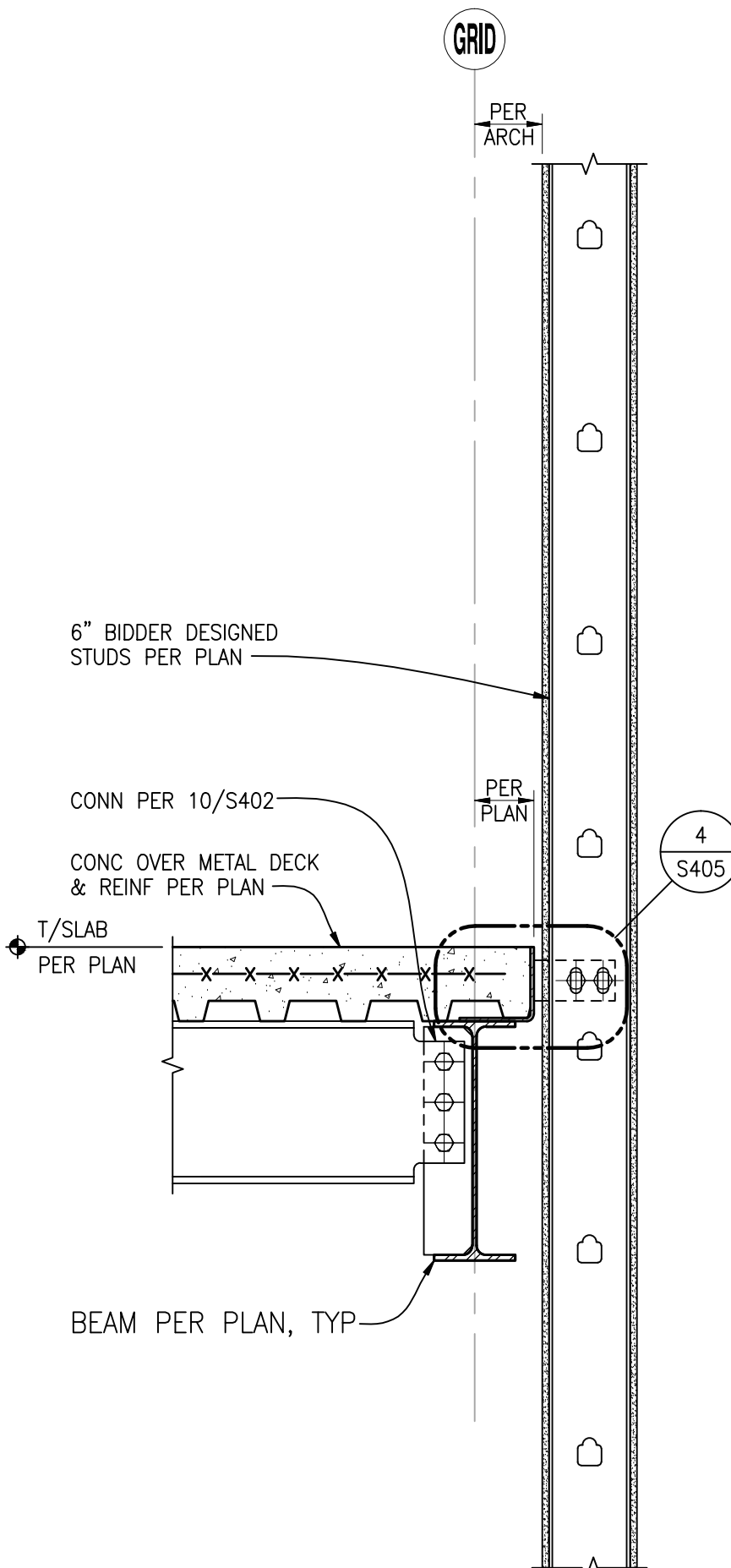
EXTERIOR STRINGER AT INTERMEDIATE LANDING



PRECAST CONNECTION DETAIL



INTERMEDIATE LANDING AT INTERIOR STRINGERS



FLOOR SECTION AT FULL HEIGHT STUDS

CONSULTANTS:

EDCI
ENGINEERS[®]
601 W. RIVERSIDE - SUITE 600
SPOKANE, WASHINGTON 99201
PHONE: (509) 455-4448 • FAX: (509) 455-7492
WEBSITE: www.ed-engineers.com
CIVIL / STRUCTURAL
CIVIL / STRUCTURAL
CIVIL / STRUCTURAL



KMA
INC.
ARCHITECTS

Approved: Project Director

	Location

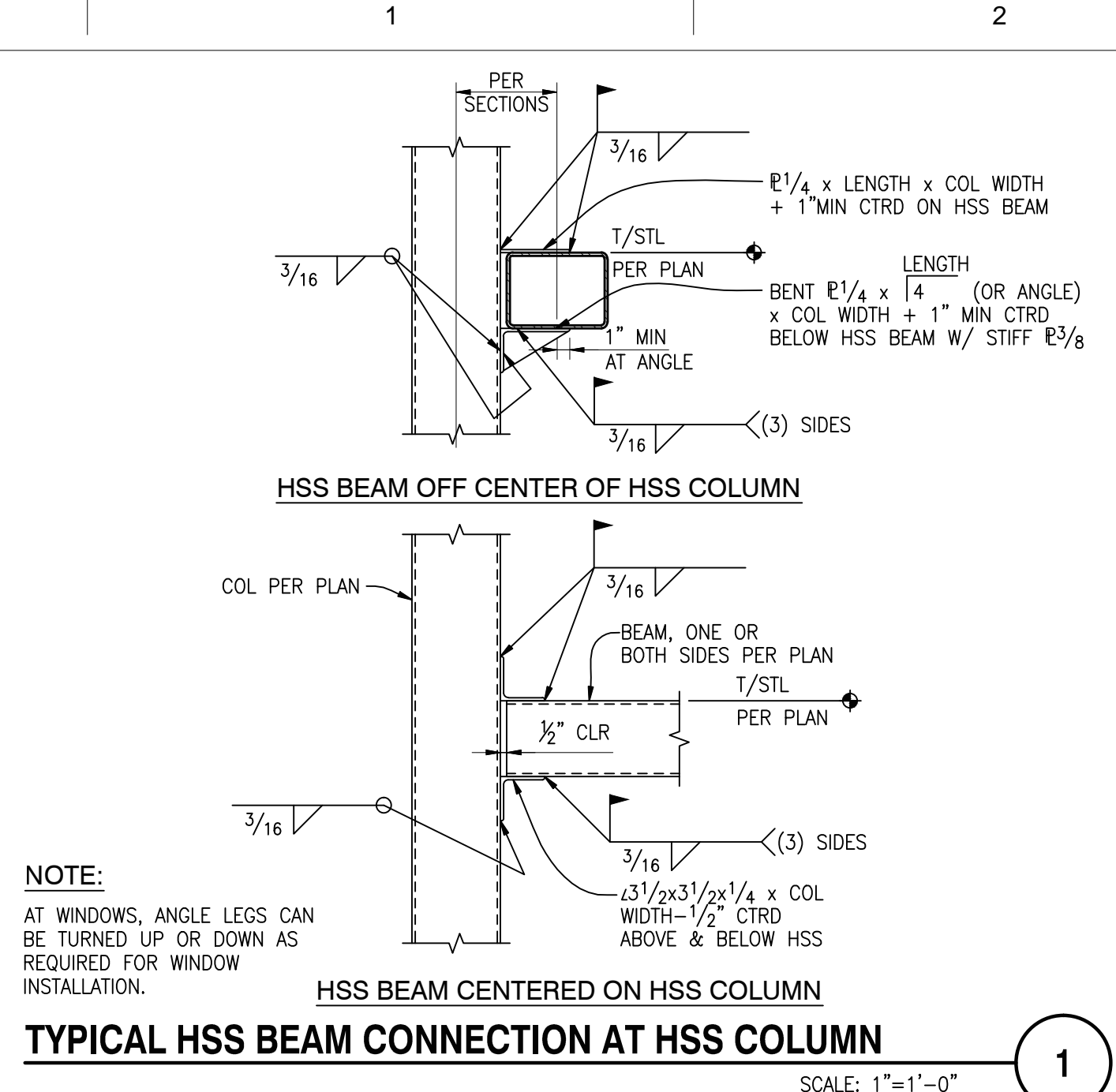
Checked
CL

	Drawing Number

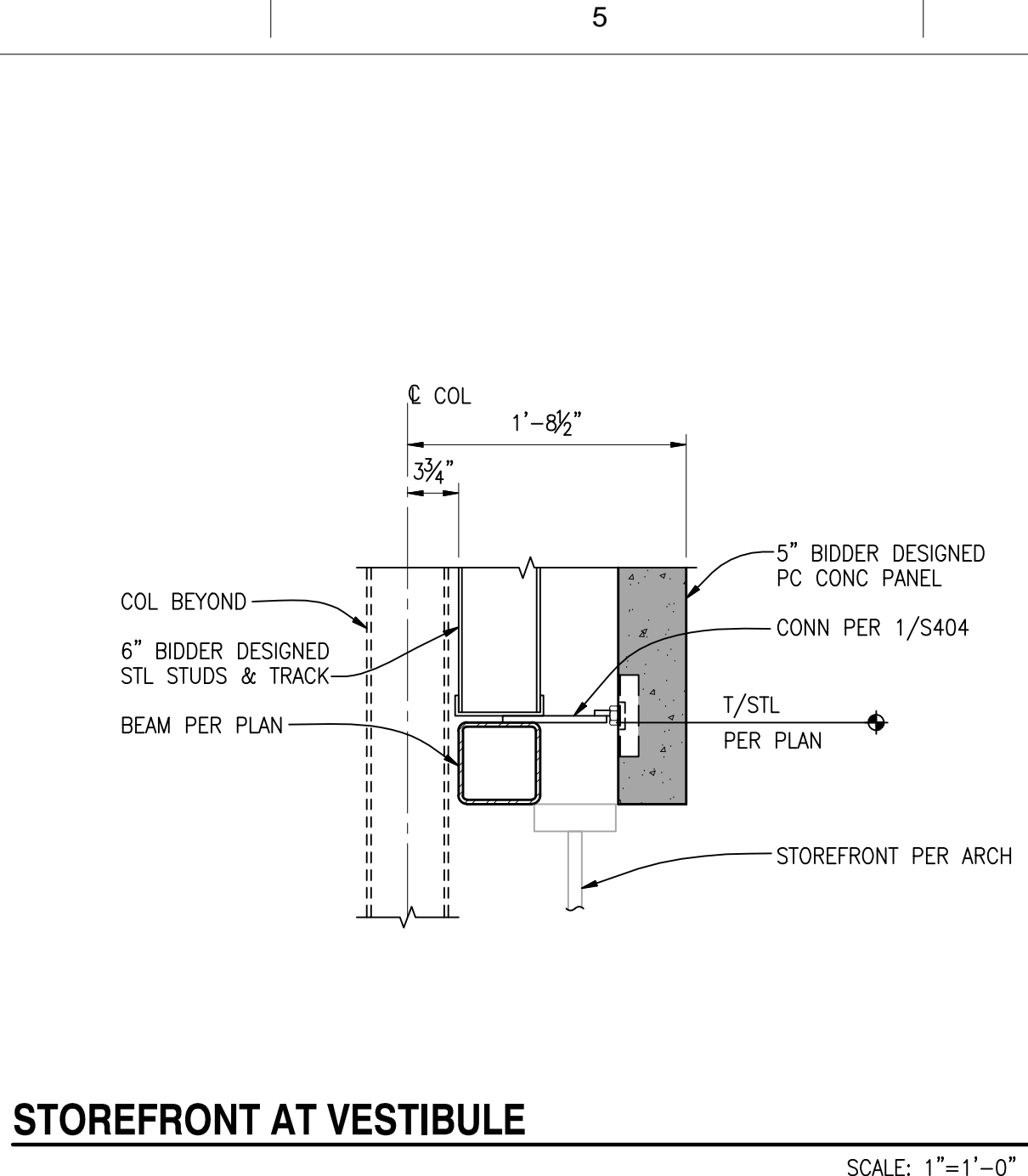
Dwg. of

Department of
Veterans Affairs

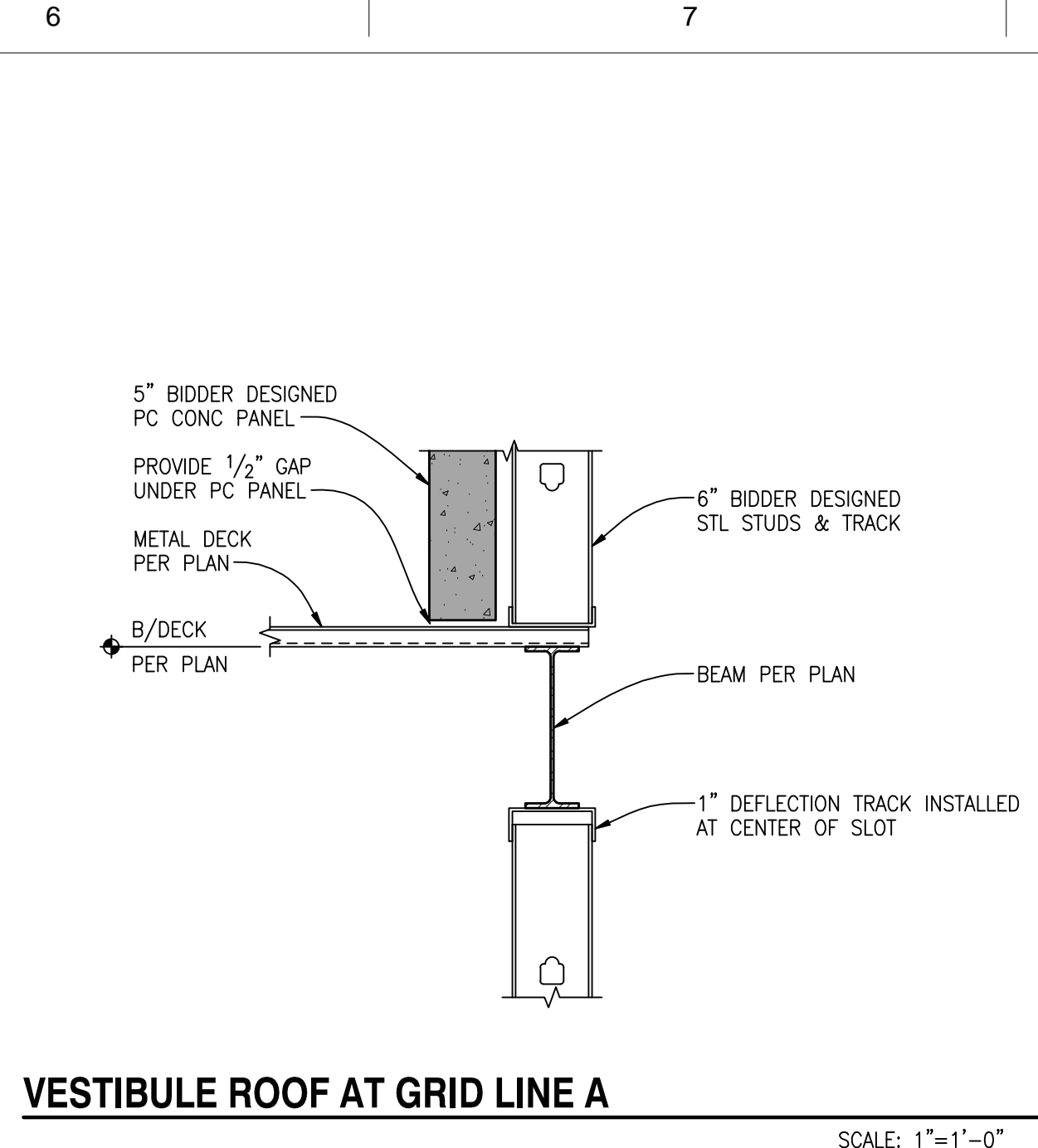
three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot



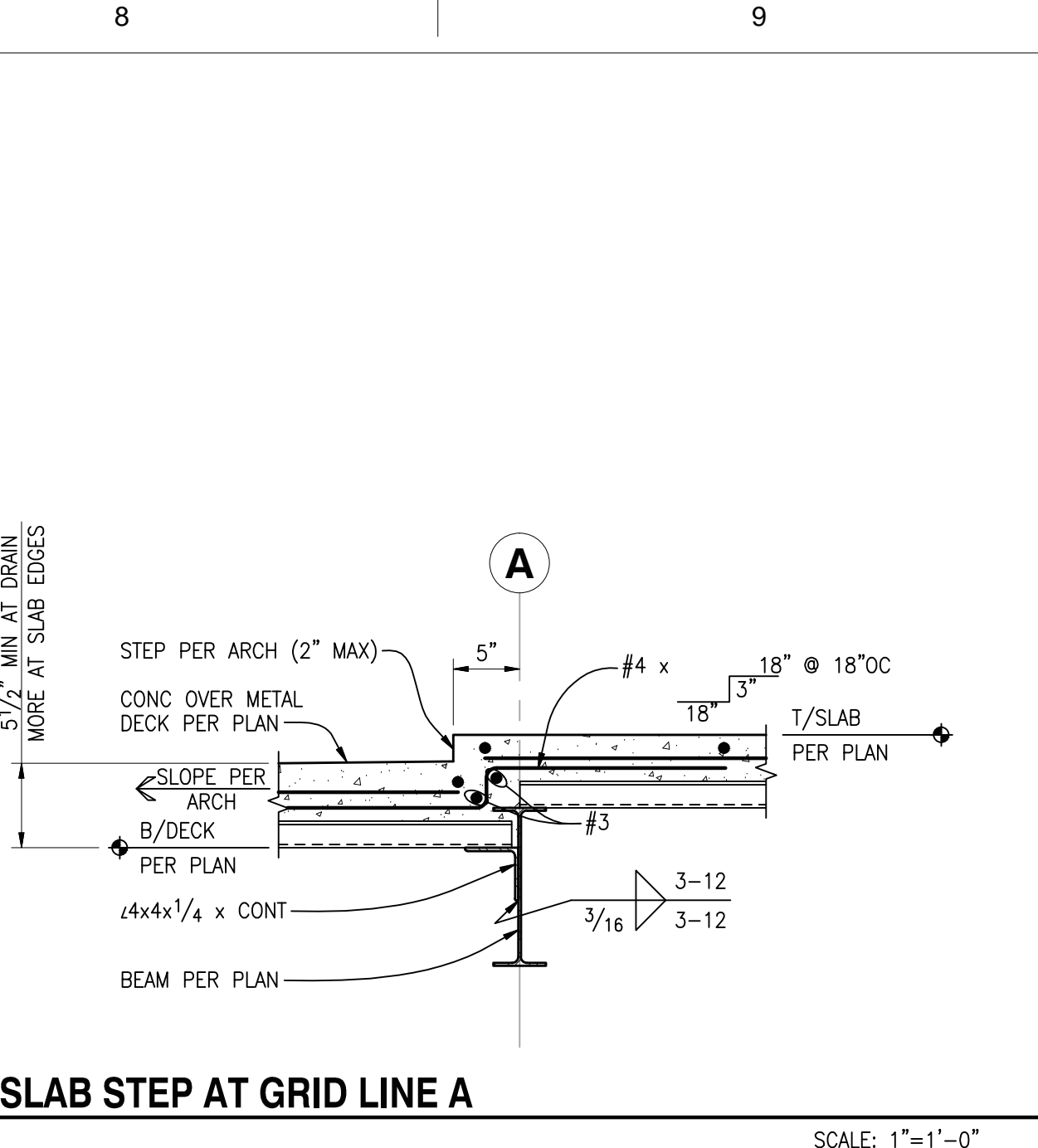
TYPICAL HSS BEAM CONNECTION AT HSS COLUMN
SCALE: 1"=1'-0"



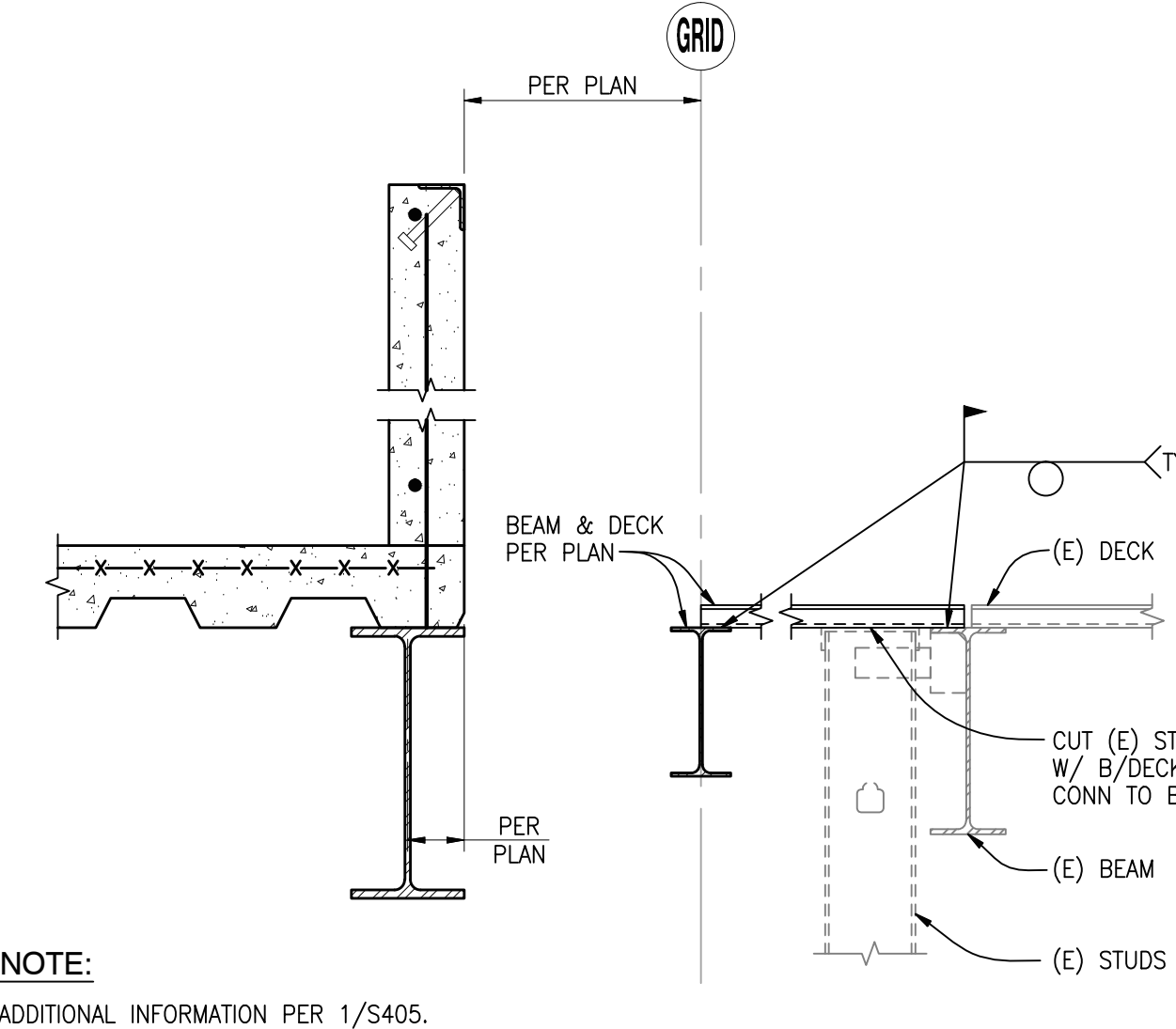
STOREFRONT AT VESTIBULE
SCALE: 1"=1'-0"



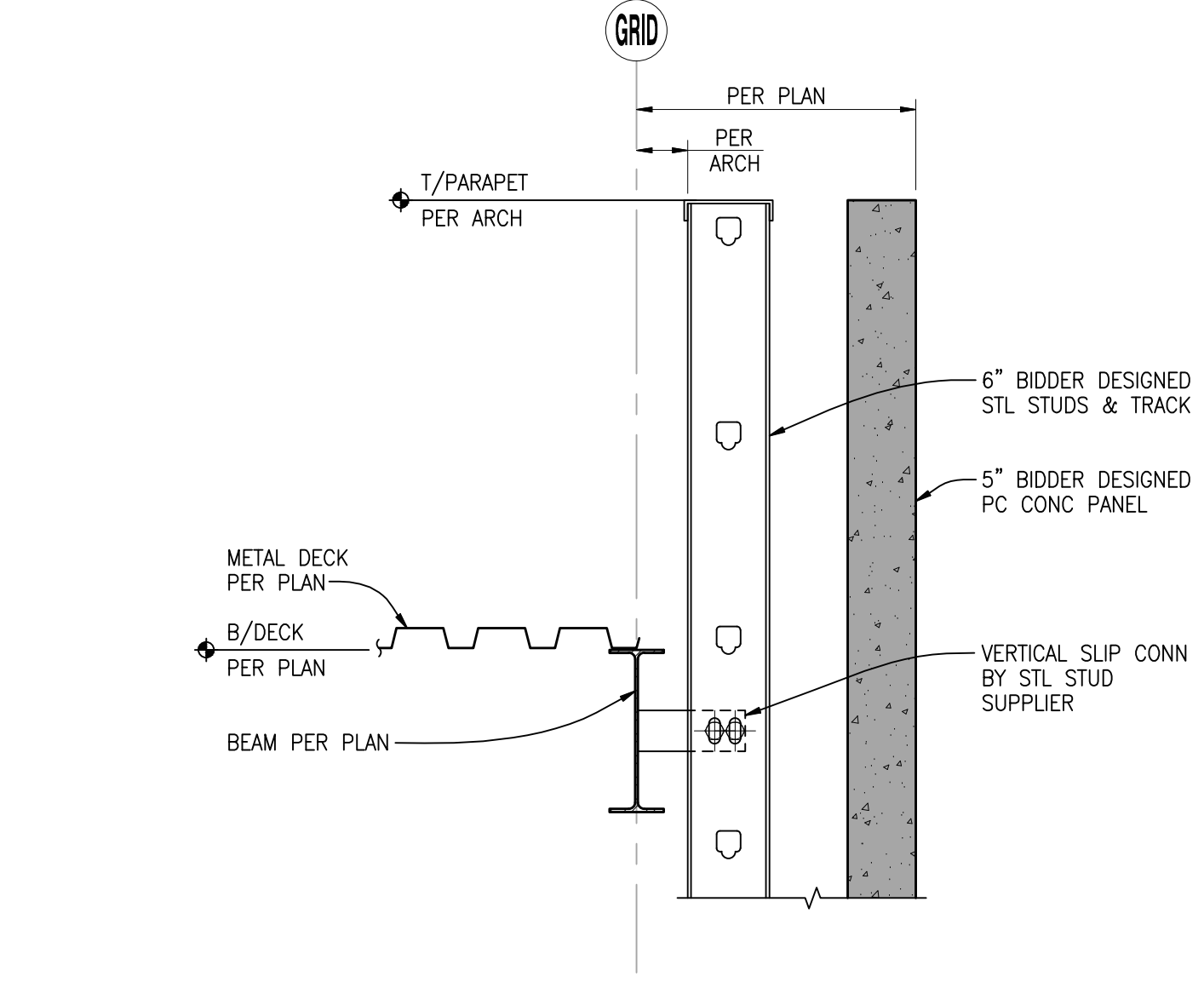
VESTIBULE ROOF AT GRID LINE A
SCALE: 1"=1'-0"



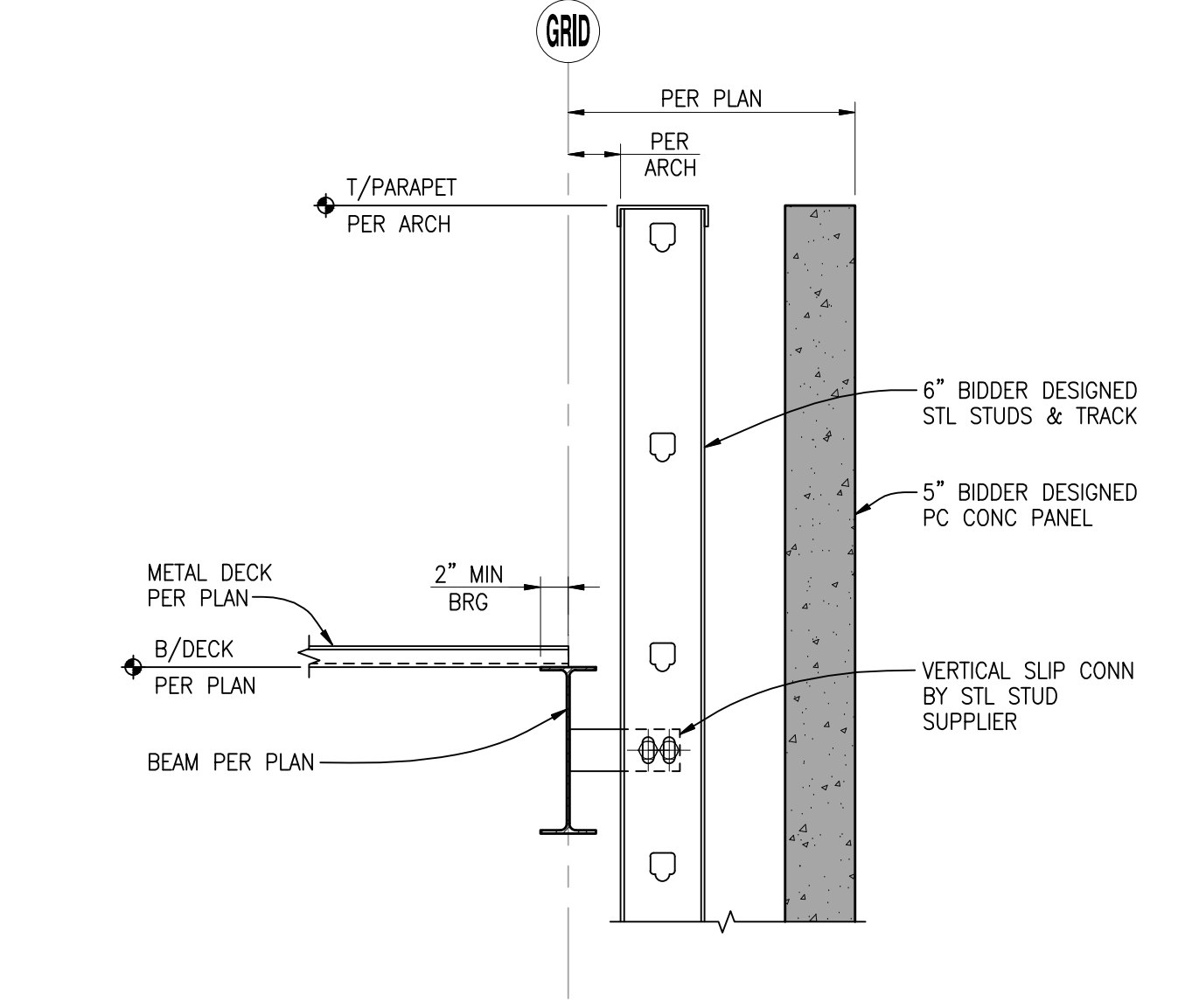
SLAB STEP AT GRID LINE A
SCALE: 1"=1'-0"



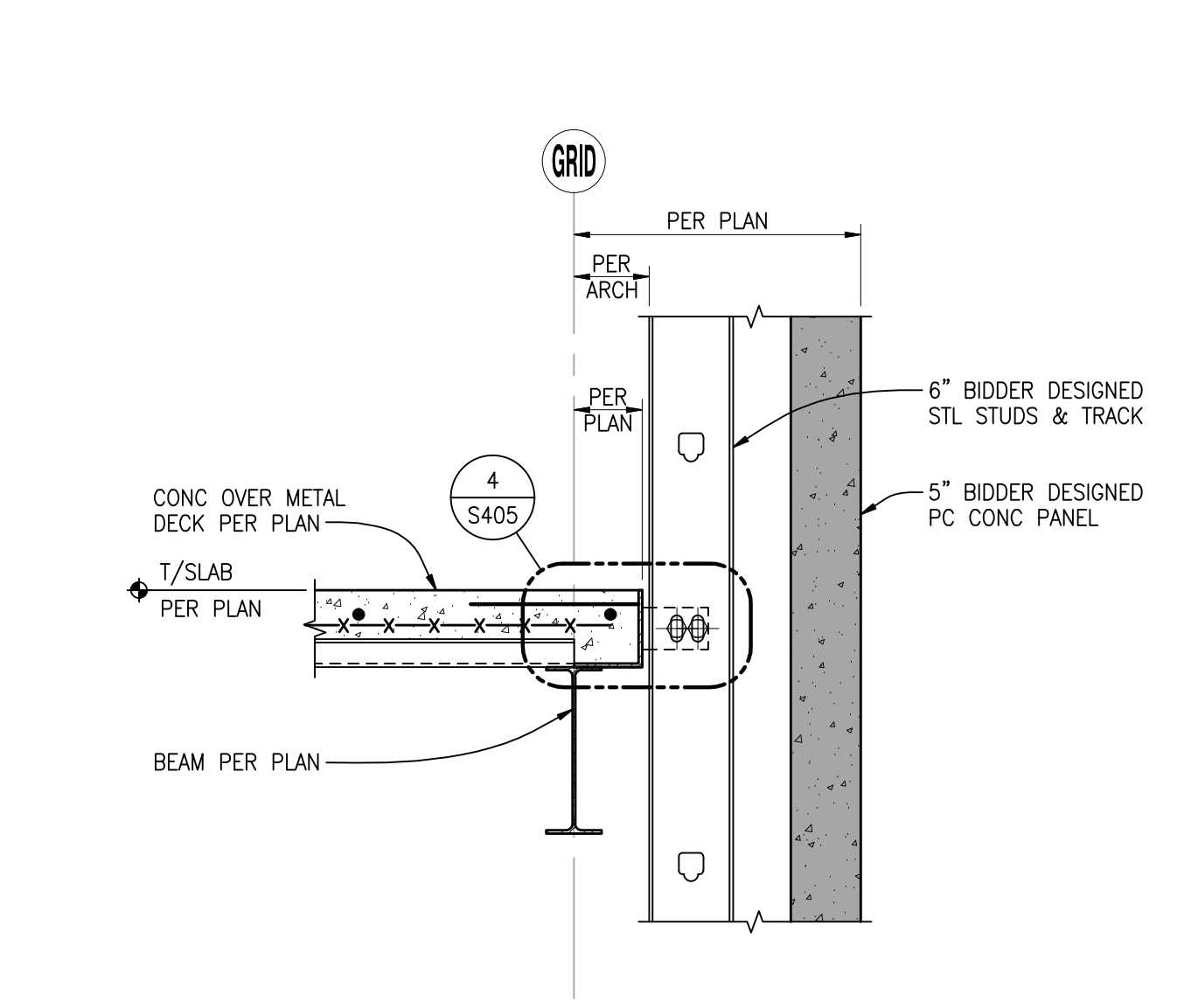
EXISTING ROOF TO NEW WITH INFILL
SCALE: 1"=1'-0"



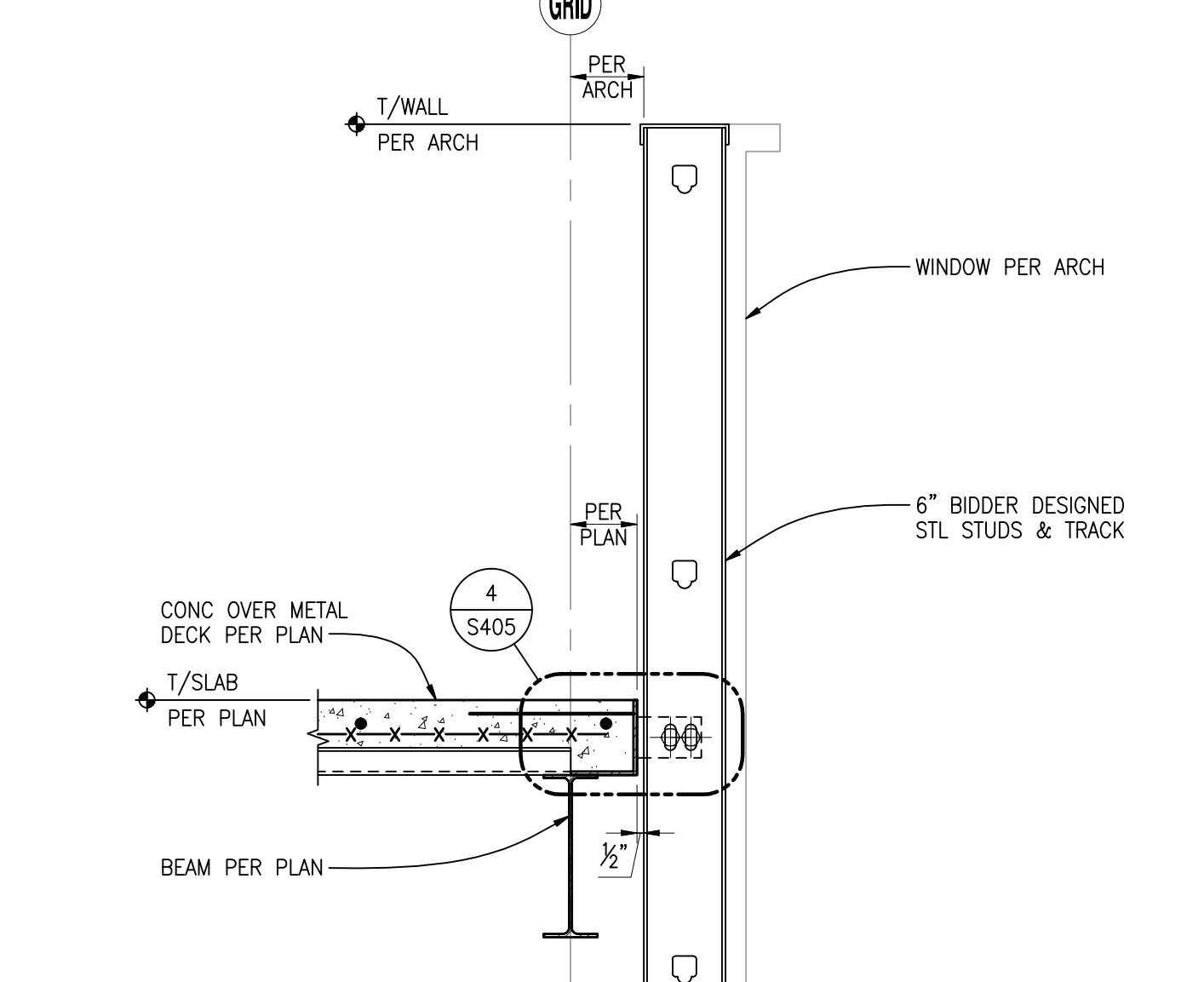
VESTIBULE ROOF SECTION AT FULL HEIGHT PRECAST (DECK PARALLEL)
SCALE: 1"=1'-0"



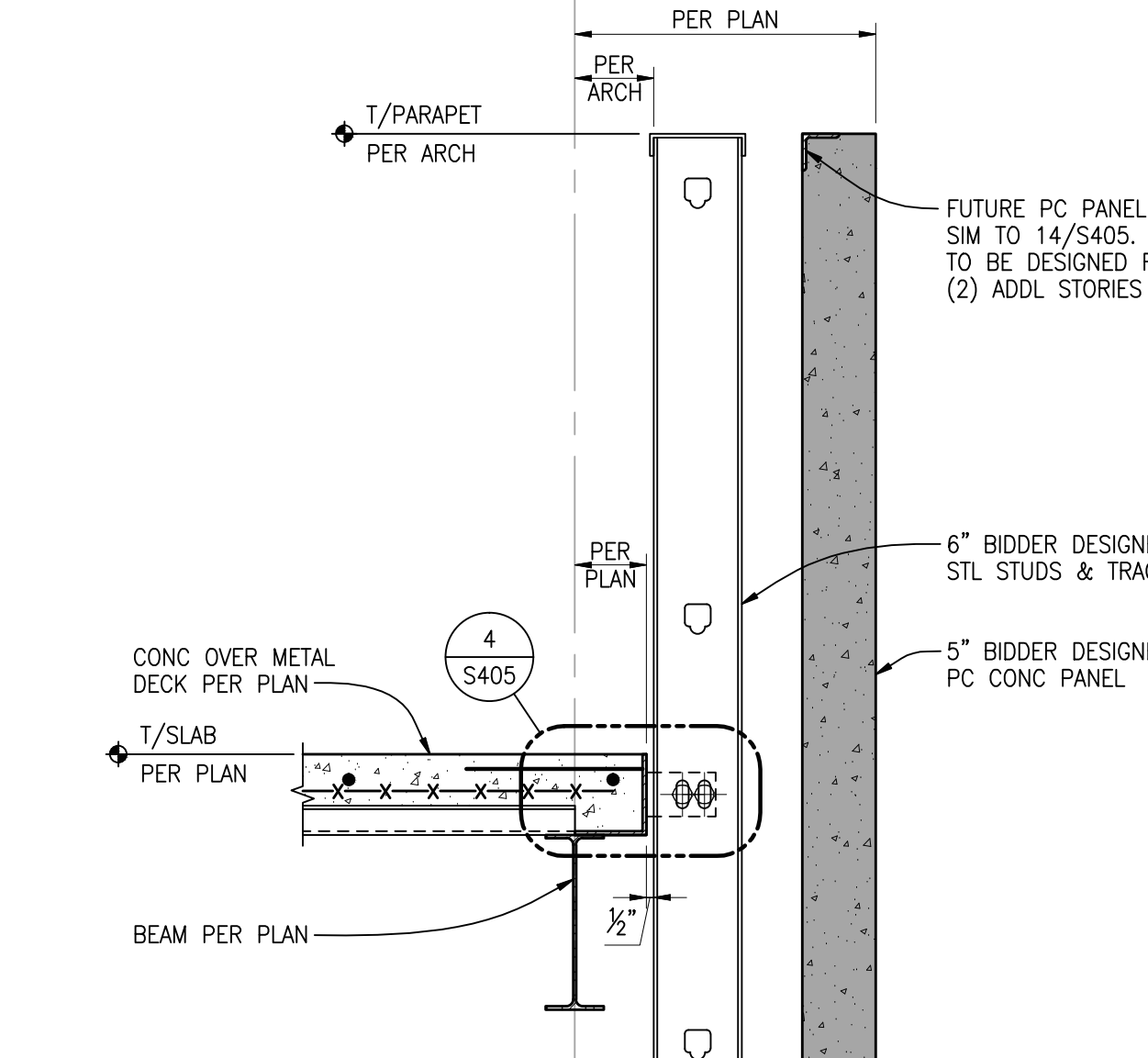
VESTIBULE ROOF SECTION AT FULL HEIGHT PRECAST (DECK PERPENDICULAR)
SCALE: 1"=1'-0"



FLOOR SECTION AT FULL HEIGHT PRECAST (DECK PERPENDICULAR)
SCALE: 1"=1'-0"

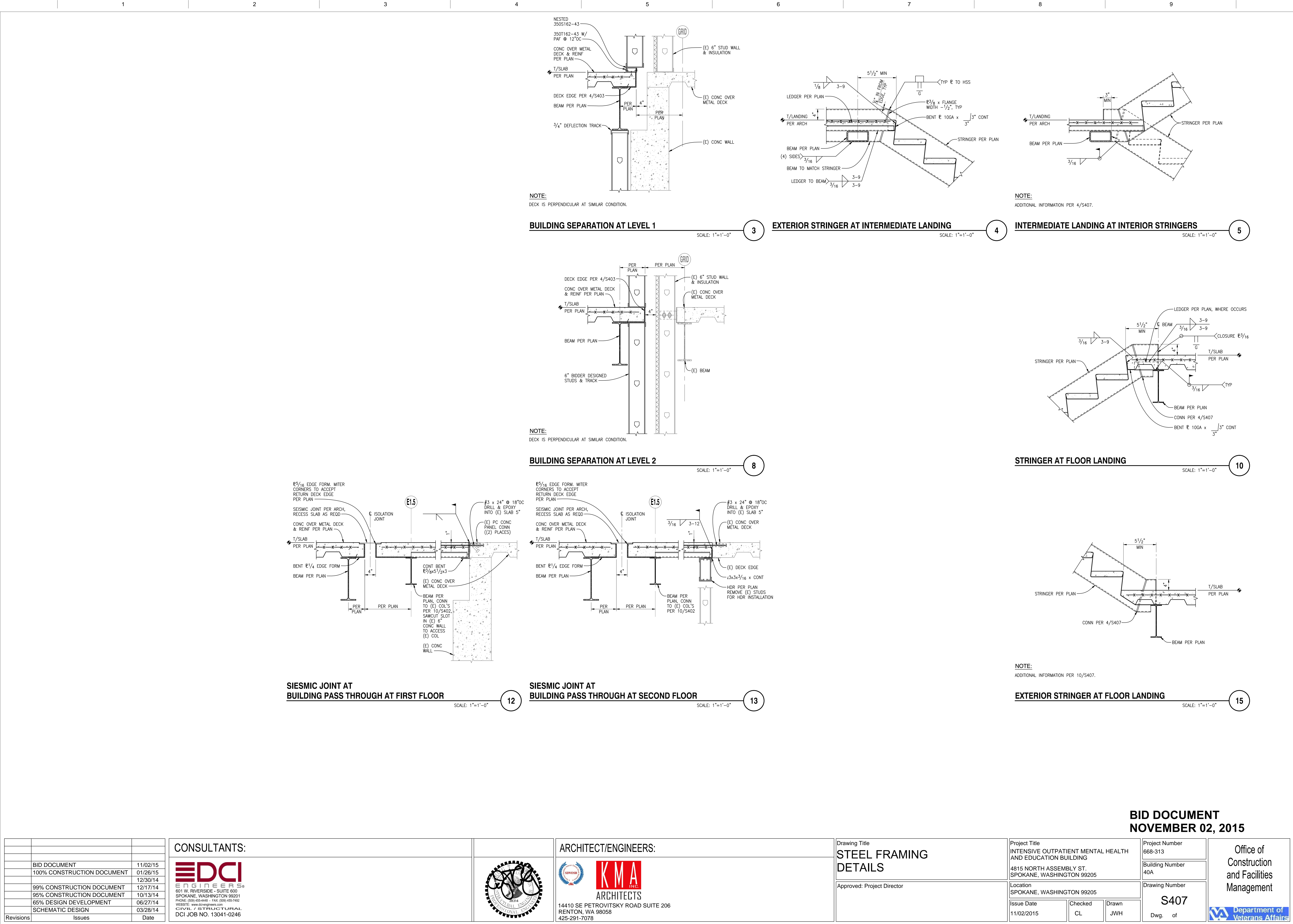


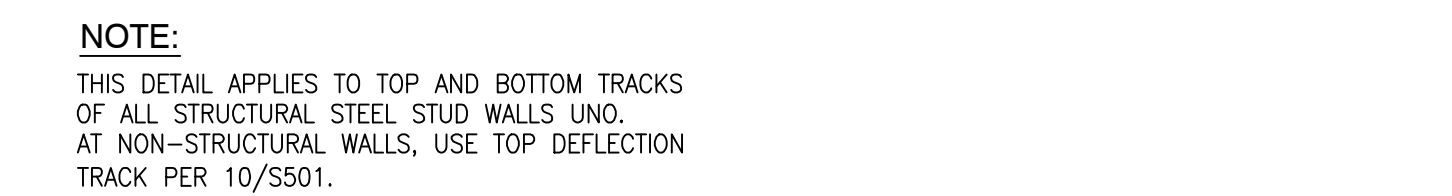
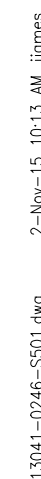
ROOF SECTION AT WINDOW (DECK PERPENDICULAR)
SCALE: 1"=1'-0"



ROOF SECTION AT FULL HEIGHT PRECAST (DECK PERPENDICULAR)
SCALE: 1"=1'-0"

CONSULTANTS:		ARCHITECT/ENGINEERS:		Drawing Title STEEL FRAMING DETAILS		Project Title INTENSIVE OUTPATIENT MENTAL HEALTH AND EDUCATION BUILDING 4815 NORTH ASSEMBLY ST. SPOKANE, WASHINGTON 99205		Project Number 668-313		Office of Construction and Facilities Management
				Approved: Project Director		Location SPOKANE, WASHINGTON 99205		Building Number 40A		
BID DOCUMENT 100% CONSTRUCTION DOCUMENT		14410 SE PETROVITSKY ROAD SUITE 206 RENTON, WA 98058 425-291-7078		Issue Date 11/02/2015		Checked CL		Drawing Number S406		
99% CONSTRUCTION DOCUMENT 95% CONSTRUCTION DOCUMENT 65% DESIGN DEVELOPMENT SCHEMATIC DESIGN		11/02/15 01/26/15 12/30/14 12/17/14 10/13/14 06/27/14 03/28/14		11/02/2015		Drawn JWH		Dwg. of		





5



10



(15)

CONSULTANTS:



ENGINEERS
601 W. RIVERSIDE - SUITE 600
SPOKANE, WASHINGTON 99201
PHONE: (509) 455-4448 - FAX: (509) 455-7492
WEBSITE: www.dci-engineers.com
CIVIL / STRUCTURAL
DCI JOB NO. 13041-0246



ARCHITECT/ENGINEERS:



KMA
INC.
ARCHITECTS

14410 SE PETROVITSKY ROAD SUITE 206
RENTON, WA 98058
425-291-7078

Drawing Title

**COLD-FORMED
FRAMING DETAILS**

Approved: Project Director

Project Title	INTENSIVE OUTPATIENT MENTAL HEALTH AND EDUCATION BUILDING
4815 NORTH ASSEMBLY ST. SPOKANE, WASHINGTON 99205	

	Location
--	----------

SPOKANE,

GTON 99205

Project Number 668-313	Office
---------------------------	--------

	Drawing Number
--	----------------

S501

Dwg. of

Office of
Construction
and Facilities
Management

